

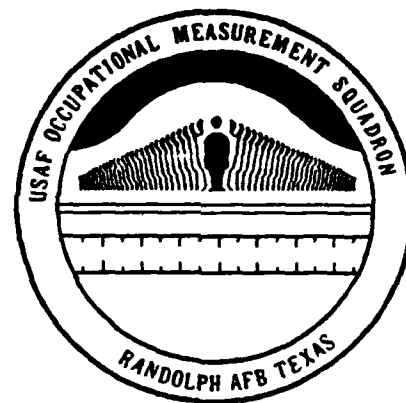
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UNITED STATES
AIR FORCE



OCCUPATIONAL SURVEY REPORT

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AIRCRAFT STRUCTURAL MAINTENANCE

AFSC 458X2

AFPT 90-427-889

93-20638



APRIL 1993

OCCUPATIONAL ANALYSIS PROGRAM
USAF OCCUPATIONAL MEASUREMENT SQUADRON
AIR TRAINING COMMAND
RANDOLPH AFB, TEXAS 78150-5000

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PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Aircraft Structural Maintenance career ladder (AFSC 458X2)--a career ladder created under the auspices of Rivet Workforce when AFSC 427X1 (Corrosion Control) and 427X5 (Airframe Repair) merged effective 31 October 1989. Authority for conducting occupational surveys is contained in AFR 35-2. Computer products used in this report are available for use by operations and training officials. Survey data were gathered prior to MAJCOM reorganization of 1990. For ease of assimilation, data are reported by MAJCOMs prior to their reorganization. Mr Donald J. Cochran, Inventory Development Specialist, developed the survey instrument; Captain Douglas K. Eads, Occupational Analyst, analyzed the data and wrote the final report. Mr Wayne J. Fruge provided computer programming support, and Mr Richard G. Ramos provided administrative support. Major Randall C. Agee, Chief, Airman Analysis Section, Occupational Analysis Flight, USAF Occupational Measurement Squadron, reviewed and approved this report for release.

Copies of this report are distributed to Air Staff sections, MAJCOMs, and other interested training and management personnel. Additional copies are available upon request to the USAF Occupational Measurement Squadron, 1550 5th Street East, Attention: Chief, Occupational Analysis Flight (OMY), Randolph AFB, Texas 78150-4449 (DSN 487-6623).

JAMES L. ANTENEN, Lt Col, USAF
Commander
USAF Occupational Measurement
Squadron

JOSEPH S. TARTELL
Chief, Occupational Analysis Flight
USAF Occupational Measurement
Squadron

SUMMARY OF RESULTS

1. Survey Coverage: The Aircraft Structural Maintenance (AFSC 458X2) career ladder was surveyed to project, plan, and develop training for this career ladder due to its creation under Rivet Workforce. This career ladder was created 31 October 1989 by the merger of AFSC 452X1 (Corrosion Control) and 452X5 (Airframe Repair). Survey results are based on responses from 3,102 AFSC 458X2 personnel representing 71 percent of the assigned population and reflect the MAJCOM and paygrade distribution of the assigned population. This is the first Occupational Survey Report (OSR) for this newly created career ladder.
2. Specialty Jobs: Structure analysis identified four job clusters and two independent job types (IJT): Airframe Maintenance and Repair Cluster, Corrosion Control Cluster, Supervisory Cluster, Tool Crib/Benchstock Supply Cluster, Airframe Instruction IJT, and Quality Assurance IJT. These jobs were similar to jobs identified in OSRs prior to the October 1989 merger. Technical School graduates are now beginning to do both Airframe and Corrosion jobs. For example, the 1984 OSR for Airframe Repair listed five of the current 458X2 jobs, and the 1988 OSR for Corrosion Control listed Quality Assurance as a major job. In both cases, tasks performed in the jobs identified were essentially the same tasks performed in the AFSC 458X2 career ladder. This is an indicator the merger under Rivet Workforce has accomplished its mission of merging two career ladders into one.
3. Career Ladder Progression: Personnel in the Aircraft Structural Maintenance career ladder show a typical pattern of career ladder progression. Three-skill level personnel perform essentially technical tasks; 5-skill level members show a moderate shift towards supervisory functions with members still spending more than half of their job time performing technical duties. Seven-skill level personnel spend the majority of their duty time performing managerial and supervisory functions, with a smaller percentage of time dedicated to technical duties. Specialty descriptions in AFR 39-1 provide a broad, accurate overview of tasks and duties performed within the career ladder.
4. Training Analysis: A match of survey data to the AFSC 458X2 Specialty Training Standard (STS) identified numerous tasks not referenced to the STS. This included 19 technical tasks with either high training emphasis or task difficulty. A similar match of data to the Plan of Instruction (POI) for the 3ABR45832, Apprentice Aircraft Structural Maintenance Specialist, revealed that only one POI learning objective was not supported. Indication is the current POI adequately covers training needs of the AFSC 458X2 population. However, career ladder functional managers and training personnel should carefully review the unsupported STS and POI items to justify their continued inclusion in the training documents.

5. Job Satisfaction Analysis: Overall, AFSC 458X2 respondents find their job interesting, possess a sense of accomplishment, and perceive a positive use of both their training and their talents. A comparison between major jobs in the current sample reveals the supervisory cluster has the highest degree of job interest, but two-thirds of the cluster perceived "none to very little" use of their training.

6. Implications: AFSC 458X2 is a "balanced" career ladder. This AFSC was not included in the FY 93 retraining-out/retraining-in list for sergeants/master sergeants. Indications are that rank structure meets Air Force requirements. AFR 39-1 job descriptions accurately describe jobs and tasks performed by personnel at all skill levels, and overall satisfaction was positive for the jobs identified. Analysis of the training documents indicates that both the STS and POI contain a number of unsupported areas which should be reviewed to determine if future revisions of these documents are warranted.

OCCUPATIONAL SURVEY REPORT (OSR)
AIRCRAFT STRUCTURAL MAINTENANCE CAREER LADDER
(AFSC 458X2)

INTRODUCTION

This is a report of an occupational survey of the Aircraft Structural Maintenance career ladder conducted by the Occupational Analysis Flight, USAF Occupational Measurement Squadron. Headquarters Air Training Command, Technical Training Operations Directorate (TTO) requested this survey to project, plan, and develop training for this career ladder due to its creation under Rivet Workforce. Previous surveys pertaining to this career ladder were published prior to the merger of AFSC 457X1 (Corrosion Control) and AFSC 457X5 (Airframe Repair) into AFSC 458X2 (Aircraft Structural Maintenance). This survey is the first for the newly created career ladder.

Background

As described in the AFR 39-1 Specialty Descriptions for AFSC 458X2, 3- and 5-skill level members repair, modify, and fabricate aircraft metals, plastics, fiberglass, composites, and bonded structural parts, components, and assemblies. They identify corrosion and apply preservative treatment to metal surfaces of missiles, aircraft, and support system equipment to meet requirements for preserving structural integrity.

Seven-skill level members troubleshoot, maintain, inspect, and repair metals, plastics, fiberglass, composites, and bonded materials. They identify and treat corrosion on aircraft and aerospace ground equipment (AGE) to meet structural integrity requirements. These 7-skill level members are also responsible for the Wash Rack.

Initial 3-skill level training for AFSC 458X2 personnel is the corrosion control course taught at Sheppard AFB TX, with a follow-on airframe repair course taught at Chanute AFB IL. Personnel must successfully complete corrosion control before attending the airframe repair course. They are awarded the 3-skill level upon completion of both courses. The schools present an introduction of knowledge, followed by hands-on experience. Additional courses in corrosion control and airframe maintenance and repair are available contingent on MAJCOM fiscal posture.

Entry into the career ladder currently requires an Armed Forces Vocational Aptitude Battery mechanical score of 51 and an X factor of J (50 lbs). There are no strength or stamina problems noted.

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SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) AFPT 90-427-889, dated August 1991. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, and tasks from the October 1989 Specialty Training Standard (STS). The preliminary task list was refined and validated through personal interviews with 83 subject-matter experts (SMEs) (48 sheet metal, 34 corrosion, and 1 plastics) representing 12 operational bases and 2 training bases. Noted below is a list of units visited in order of visit:

<u>BASE</u>	<u>UNIT VISITED</u>
Sheppard AFB TX	3770th Technical Training Group
Chanute AFB IL	3340th Technical Training Group
McClellan AFB CA	2951st Combat Logistics Support Squadron
Travis AFB CA	60th Equipment Maintenance Squadron
Hill AFB UT	2952d Combat Logistics Support Squadron
Davis-Monthan AFB AZ	355th Equipment Maintenance Squadron
Luke AFB AZ	58th Equipment Maintenance Squadron
Luke AFB AZ	405th Equipment Maintenance Squadron
Edwards AFB CA	6510th Equipment Maintenance Squadron
Ellsworth AFB SD	44th Field Missile Maintenance Squadron
Ellsworth AFB SD	28th Field Maintenance Squadron
Minot AFB ND	99th Consolidated Aircraft Maintenance Squadron
Minot AFB ND	5th Field Maintenance Squadron
Minot AFB ND	91st Field Missile Maintenance Squadron
Minot AFB ND	5th Bomb Wing
Holloman AFB NM	49th Equipment Maintenance Squadron
Holloman AFB NM	4449th Mobility Support Squadron
Kirtland AFB NM	1550th Equipment Maintenance Squadron

Dyess AFB TX

96th Field Maintenance Squadron

Little Rock AFB AR

314th Equipment Maintenance Squadron

Units selected were recommended by MAJCOM functional managers for visit based on their particular aircraft structural maintenance activities (structural, corrosion, missiles) and location, such as dry or humid climate.

The resulting JI contained a comprehensive listing of 1,058 tasks grouped under 25 duty headings. A background section requested information such as grade, job title, time in present job, time in service, job satisfaction, and equipment maintained in performance of the incumbent's job.

Survey Administration

From January through May 1991, Military Personnel Flights (formerly CBPOs) at operational bases nationwide administered the inventory to all eligible DAFSC 458X2 personnel. Members eligible for the survey consisted of the total assigned 3-, 5-, and 7-skill level population, excluding the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring during the time inventories were administered to the field; and (4) personnel in their jobs less than 6 weeks. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Human Resources Directorate, Armstrong Laboratory, Brooks AFB TX.

Each individual who completed the inventory first filled in an identification and biographical information section, then identified each task they performed in their current job by placing a checkmark by those tasks. After identifying all tasks performed, each individual rated each task on a 9-point scale showing relative time spent on that task compared to all other tasks identified. Ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount spent).

To determine relative time spent for each task identified by a respondent, all the incumbent's ratings are assumed to account for 100 percent of that member's time spent on the job and are summed. Each task rating is then divided by the total number of task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percentage of time spent on a particular task.

Survey Sample

Personnel participating in this survey were selected to ensure an accurate representation across MAJCOMs and paygrades. Table 1 reflects distribution percentages assigned to AFSC 458X2 personnel, by MAJCOM, as of May 1991. The 3,102 respondents in the final sample represent 71 percent of

TABLE 1
MAJCOM REPRESENTATION IN SAMPLE

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
USAFE	10	10
AFLC	6	6
AFSC	3	3
ATC	2	3
MAC	23	27
PACAF	5	6
SAC	20	20
TAC	28	25
AFSOC	3	0
OTHER	*	0

Total Assigned: 4,359
Total Surveyed: 3,882
Total in Sample: 3,102
Percent of Assigned in Sample: 71%
Percent of Surveyed in Sample: 80%

* Denotes less than 1 percent

TABLE 2
PAYGRADE DISTRIBUTION OF SAMPLE

<u>PAYGRADE</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
E-1 to E-3	26	28
E-4	27	24
E-5	25	25
E-6	14	15
E-7	8	8
E-8	*	*

* Denotes less than 1 percent

all assigned AFSC 458X2 personnel. Table 2 reflects distribution percentages by paygrade. As shown by both tables, the survey sample accurately reflects an overall AFSC 458X2 population.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions concerning career ladder documents or training programs. Task factor information is required for a complete analysis of the career ladder. To obtain required task factor data, selected senior AFSC 458X2 personnel (generally E-6 or E-7 technicians or supervisors) also completed a second booklet for either training emphasis or task difficulty. These booklets were processed separately from the job inventories. Information obtained is used in a number of different analyses discussed in more detail within this report.

Task Difficulty (TD). TD is defined as the amount of time the average person needs to learn and perform a task successfully. Seventy-five experienced 7-skill level personnel stationed worldwide completed a TD booklet and were asked to rate the relative difficulty of all inventory tasks on a 9-point scale (from extremely low to extremely high). Interrater reliability was calculated and found acceptable. Ratings are standardized so tasks have an average difficulty rating of 5.00, with a standard deviation of 1.00.

Training Emphasis (TE). TE is defined as the amount of structured training first-enlistment personnel need to perform tasks successfully. Structured training is defined as training provided by resident technical schools, field training detachments, mobile training teams, formal on-the-job training (OJT), or any other organized training method. Data were collected independently from 75 experienced 7-skill level personnel stationed worldwide. Individuals completing TE booklets were asked to rate tasks on a 10-point scale from no training required (0) to an extremely high amount of TE (10).

As with TD ratings, interrater reliability was also acceptable. In this specialty, the average TE is rated at 2.78, with a standard deviation of 1.51. Any task with the rating of 4.29 or greater is considered to have a high TE. As was discussed in the TD section above, TE data may also be used to rank order tasks, indicating those tasks senior NCOs in the field consider the most important for first-term airmen to be trained to perform.

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide insight into first-term personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting AFS entry-level jobs.

SPECIALTY JOBS (Career Ladder Structure)

Each USAF Occupational Analysis begins with an examination of the career ladder structure. The structure of jobs within the Aircraft Structural Maintenance career ladder was examined on the basis of similarity of tasks performed and the relative percent of time spent on these tasks provided by job incumbents, independent of other specialty background factors.

Each individual in the sample performs a set of tasks called a job. An automated clustering program identifies individual jobs with similar patterns of work and groups them into successively larger groups. This hierarchical grouping program is a basic part of the Comprehensive Occupational Data Analysis Program system for job analysis. Each individual job description (all the tasks performed by that individual and the relative amount of time spent on those tasks) in the sample is compared to every other job description in the sample. The automated system locates the two job descriptions with the most similar tasks and percent time ratings and combines them to form a group job description. In successive stages, the system adds new members to initial groups, or forms new groups based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

The basic identifying group used in the hierarchical job structuring process is the job type. When there is a substantial degree of similarity between job types, they are grouped together and identified as a cluster. A specialized job type too dissimilar to fit within a cluster is labeled an independent job type (IJT). The job structure resulting from this grouping process (the various jobs within the career ladder) can be used to evaluate the accuracy of career ladder documents (AFR 39-1 Specialty Descriptions and STSs) and to gain a better understanding of current utilization patterns. The above terminology is used in the discussion of the AFSC 458X2 career ladder structure.

Overview of Specialty Jobs

Based on the similarity of tasks performed and the amount of time spent performing each task, four clusters and two IJTs were identified within the survey sample. Figure 1 illustrates the division of jobs performed by AFSC 458X2 personnel. A listing of these jobs is provided below.

Table 3 presents the relative time spent by respondents in each duty for each job. The stage (STG) number shown beside each title references computer-printed information; the letter ("N") stands for the number of personnel in each group.

- I. AIRCRAFT STRUCTURAL MAINTENANCE AND REPAIR CLUSTER (STG140, N=1,971)
- II. CORROSION CONTROL CLUSTER (STG126, N=477)

AFSC 458X2 SPECIALTY JOBS (N= 3,102)

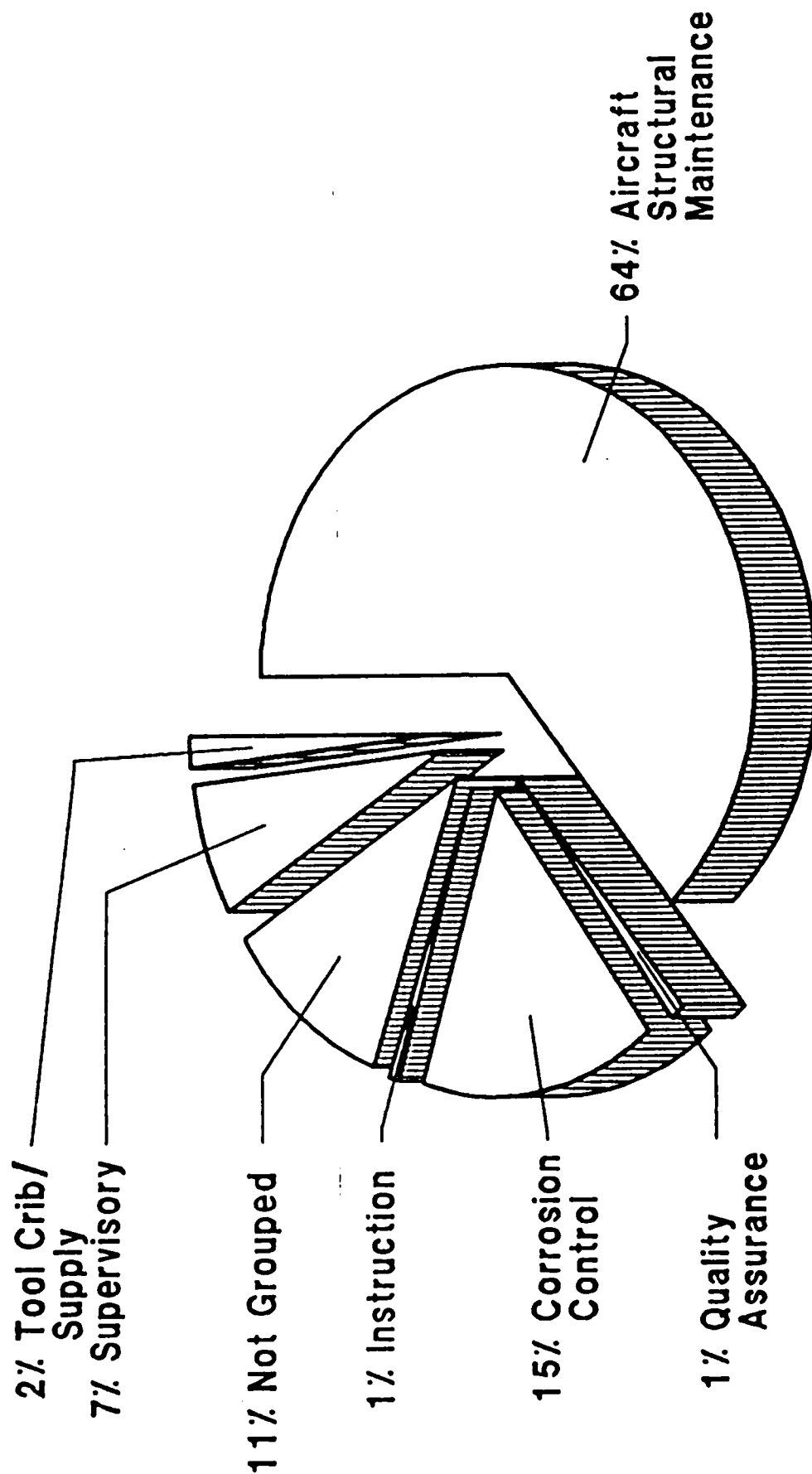


Figure 1

TABLE 3

AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS*

DUTIES	AIRCRAFT STRUCTURAL MAINTENANCE (STG140)	CORROSION CONTROL (STG126)	QUALITY ASSURANCE (STG498)	INSTRUCTION (AIRFRAME) (STG142)	SUPERVISORY (STG098)	TOOL CRIB/ BENCH STOCK SUPPLY (STG268)
A ORGANIZING AND PLANNING	2	3	6	6	20	7
B DIRECTING AND IMPLEMENTING	1	2	5	4	14	3
C INSPECTING AND EVALUATING	3	3	24	7	19	7
D TRAINING	1	1	4	21	10	2
E PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	5	6	13	11	15	61
F PERFORMING GENERAL AIRCRAFT STRUCTURAL MAINTENANCE	10	18	2	2	3	3
G PERFORMING GENERAL AIRCRAFT, SUPPORT EQUIPMENT, AND MISSILE INSPECTIONS	4	5	16	1	4	*
H PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	3	9	4	2	2	5
I TREATING AIRCRAFT AND SUPPORT EQUIPMENT	1	2	1	1	*	*
J APPLYING PROTECTIVE COATINGS	6	21	*	*	*	*
K REMOVING CORROSION AND PROTECTIVE COATINGS	5	8	*	1	*	1
L MAINTAINING CORROSION CONTROL EQUIPMENT	4	12	2	1	1	4
M REPAIRING, MODIFYING, AND FABRICATING METAL PARTS AND ASSEMBLIES OF AIRFRAME STRUCTURES	16	3	1	15	1	1
N PERFORMING SEALING ACTIVITIES	4	1	2	2	*	*
O INSTALLING AND REMOVING FASTENERS	16	2	7	14	2	1
P PERFORMING ADVANCED COMPOSITE STRUCTURAL AND HONEYCOMB CORE REPAIRS	1	*	1	*	*	*
Q PERFORMING FIBERGLASS STRUCTURAL AND HONEYCOMB CORE REPAIRS	5	*	2	5	1	*
R PERFORMING METAL BONDED HONEYCOMB CORE REPAIRS	2	*	1	2	*	*
S REPAIRING AND REPLACING TRANSPARENT PLASTICS	1	*	*	*	*	*
T MAINTAINING AIRCRAFT CABLES AND CABLE ASSEMBLIES	2	*	2	1	*	*
U MAINTAINING AIRCRAFT TUBING AND TUBING ASSEMBLIES	4	*	2	4	1	*
V BALANCING AIRCRAFT FLIGHT CONTROL SURFACES AND ALIGNING AIRCRAFT COMPONENT STRUCTURES	*	*	*	*	*	*
W PERFORMING MISSILE DISPATCH AND CORROSION CONTROL ACTIVITIES	*	*	*	*	*	*
X PERFORMING CORE AUTOMATED MAINTENANCE (CAMS) ACTIVITIES	3	2	4	*	5	4
Y PERFORMING CROSS-UTILIZATION TRAINING (CUT) ACTIVITIES	*	*	*	*	*	*

* Denotes less than 1 percent

- III. QUALITY ASSURANCE (QA) IJT (STG498, N=29)
- IV. INSTRUCTION (AIRFRAME) IJT (STG142, N=19)
- V. SUPERVISORY CLUSTER (STG098, N=219)
- VI. TOOL CRIB/BENCH STOCK SUPPLY CLUSTER (STG268, N=52)

Respondents forming these groups account for 89 percent of the survey sample. The remaining 11 percent were performing tasks or series of tasks which did not group with any of the defined jobs. Examples include: dormitory management, repairing, fabricating metal parts, maintaining tubing and/or tubing assemblies, QA for missiles, and Technical School Instructor Evaluators.

Table 4 highlights selected background information, such as DAFSC and paygrade distributions across each group, average months in service (TAFMS), and average number of tasks performed. For example, Table 4 shows the Quality Assurance cluster has 29 members who have an average TAFMS of 152 months and perform an average of 95 tasks.

Group Descriptions

The following paragraphs contain brief descriptions of the six jobs identified through the career ladder structure analysis. Appendix A lists representative tasks for each group.

I. AIRCRAFT STRUCTURAL MAINTENANCE AND REPAIR CLUSTER (STG140, N=1,971). This is the core job within the Aircraft Structural Maintenance career ladder. Almost three quarters of all 3- and 5-skill level members form this job. Representing 63.5 percent of the survey sample, members with this core job perform an average of 228 tasks. They spend 32 percent of their duty time preparing, modifying, and fabricating metal parts and assemblies of airframe structures, and installing and removing fasteners. This includes forming/trimming metal patches, working with swage, aircraft cables/assemblies, and aircraft skin repairs. Typical tasks performed by members in this cluster include:

- drill fastener holes
- countersink fastener holes
- cut and trim sheet metal
- cut rivets
- stop drill cracks on sheet metal
- align river or special fastener holes
- remove damaged areas by chain drilling
- replace security system drawers

TABLE 4

SELECTED BACKGROUND DATA FOR 458X2 CAREER LADDER JOBS

	AIRCRAFT STRUCTURAL AND REPAIR MAINTENANCE	CORROSION CONTROL	QUALITY ASSURANCE	INSTRUCTION (AIRFRAME)	SUPERVISORY	TOOL CRIB/ BENCH STOCK SUPPLY
NUMBER IN GROUP	1,971	477	29	19	219	52
PERCENT OF SAMPLE	63%	15%	1%	1%	7%	2%
DAFSC DISTRIBUTION						
45832	20%	18%	3%	0%	0%	0%
45852	53%	52%	3%	32%	7%	42%
45872	26%	30%	93%	68%	92%	58%
PAYGRADE DISTRIBUTION						
E-1 - E-3	33%	24%	0%	0%	1%	2%
E-4	26%	29%	0%	5%	2%	23%
E-5	26%	30%	31%	47%	8%	44%
E-6	12%	15%	52%	42%	32%	29%
E-7	3%	2%	17%	5%	54%	2%
E-8	0%	0%	0%	0%	3%	0%
AVERAGE NUMBER OF TASKS						
PERFORMED	228	169	95	85	121	70
AVERAGE MONTHS TAFMS	84	94	152	148	190	126
PERCENT IN FIRST ENLISTMENT	39%	33%	0%	0%	0%	8%
PERCENT SUPERVISING	43%	46%	48%	21%	91%	52%

Two job variations occur within this cluster. In one, members spend more time with metal bonded and fiberglass honeycomb core repair tasks and tasks relating to aircraft cables and cable assemblies. In the other variation, members focus on cutting/trimming sheet metal and performing aircraft skin repair tasks.

II. CORROSION CONTROL CLUSTER (STG126, N=477). These jobs are performed by the second largest number of respondents. Comprising 15.4 percent of the survey sample, incumbents perform an average of 169 tasks, a somewhat narrower job than seen in the previous cluster. Members in this cluster spend the majority of their duty time performing general aircraft structural maintenance, applying protective coatings, removing corrosion and protective coatings, and maintaining corrosion control equipment. Time spent on these duties is greater than for any other cluster. Representative tasks performed by members within this cluster include:

- prepare surfaces using pneumatic sanders
- wipe down surfaces prior to painting
- apply/remove masking materials to surfaces
- mix paints
- prepare surfaces by hand-sanding
- prepare polyurethane coatings for application

Over half of the members with these jobs are in paygrades E-1 through E-4, with one-third serving in their first enlistment. Although this cluster's primary responsibility is corrosion control, variations occurred as incumbents reported primary duties focused on preparing aircraft and equipment for painting, supervising, inspecting aircraft and equipment for corrosion and corrosion instruction (Tech School).

III. QUALITY ASSURANCE (QA) IJT (STG498, N=29). The responsibilities of QA include inspecting, evaluating, performing general aircraft, support equipment, missile inspections, and general administrative and supply activities. These duties account for 53 percent of these respondents' job time. Incumbents perform an average of 95 tasks, suggesting a very narrowly focused job. Over 93 percent of the respondents perform the following typical tasks:

- inspect shop maintenance activities
- inspect flightline maintenance activities
- evaluate personnel for compliance with performance standards or technical orders
- inspect installed rivets for structural deformities
- inspect installed mechanical-lock blind rivets

QA is a mid-level to senior NCO level job performed by personnel in paygrades E-5, E-6, and E-7. Virtually all members hold a 7-skill level.

IV. INSTRUCTION (AIRFRAME) IJT (STG142, N=19). These members instruct both knowledge of subject matter and practical, hands-on experience in airframe maintenance and repair. Members with this job teach only the airframe and not corrosion control aspects of the career ladder. Common tasks performed by members in this job include:

- evaluate progress of trainees
- administer or score tests
- conduct resident course classroom training
- prepare lesson plans
- drill fastener holes
- inspect drilled fastener holes
- secure sheet metal with cleco fasteners

Over 90 percent of the personnel within this job are in paygrades E-5 and E-6, who perform an average of 85 tasks dealing with classroom instruction.

V. SUPERVISORY CLUSTER (STG098, N=219). Representing 7.1 percent of the survey sample, personnel in this job spend 78 percent of their duty time performing various supervisory responsibilities, while the remaining 12 percent is spent on technical tasks. Duty title variations in this grouping occurred with respondents identifying their specific job as either Superintendent (N=21), Branch Chief or Shop Chief (N=111), or Flightline NCOIC, Shift Leader/Crew Leader (N=18). Members perform an average of 121 tasks involving traditional supervisory activities of counseling, assigning work, and evaluating performance. Typical tasks for this group include:

- write EPRs
- determine or establish work priorities
- counsel personnel on personal or military-related matters
- inspect personnel for compliance with military standards
- conduct performance feedback worksheet evaluation sessions
- assign personnel to duty positions
- assign maintenance and repair work
- perform EMDAS nightly maintenance

This job is performed by more senior personnel. There are no first-term airmen assigned, and only 4 percent had less than 10 years TAFMS. In fact, average TAFMS for this job is 190 months with an average of 172 months' time in the career ladder.

VI. TOOL CRIB/BENCH STOCK SUPPLY CLUSTER (STG268, N=52). Representing 1.7 percent of the survey sample, members performing this job spend 61 percent of their duty time performing general administrative and supply activities. Members in this job reported performing tasks related only to supply activities. This includes establishing bench stock requirements, maintaining

records, inventory, stock rotation, and coordinating/obtaining parts from base supply. Illustrating the narrow focus of this job, members performed an average of only 70 tasks. Typical supply tasks performed by personnel in the supply job include:

- inventory composite tool kits (CTKs)
- maintaining tool cribs or CTKs
- maintain benchstock parts or equipment levels
- issue equipment and supplies
- inventory tools, equipment, or supplies, other than CTKs
- complete AF Forms 2005 (Issue/Turn in Request)

Members in this job report an average TAFMS of 126 months, average time in the career ladder of 109 months, and only 8 percent of the respondents are in their first enlistment.

Comparison of Current Group Descriptions to Previous Study

The results of the specialty job analysis were not compared to any previous OSRs. The most recent analysis for the career ladder was conducted prior to the creation of AFSC 458X2 under Rivet Workforce.

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may be used to evaluate how well career ladder documents, such as AFR 39-1 Specialty Descriptions and the STS, reflect what career ladder personnel are actually doing in the field. Nine-skill level and CEM-code personnel in the AFSC 458X2 career ladder were not surveyed and are not discussed in this report.

The distribution of skill-level groups across the career ladder jobs is displayed in Table 5, while Table 6 offers another perspective by displaying percent time spent on each duty across the skill-level groups. Table 5 shows most of the 3-skill level members are assigned to the Aircraft Structural Maintenance job with a small percentage assigned to Corrosion Control. Five-skill level members begin to perform supervisory tasks, and 7-skill level personnel are found performing fewer technical and more supervisory jobs. Table 6 also reflects a typical pattern of progression within the career ladder, with personnel at the 3-skill level spending most of their time on technical tasks. More relative time is spent on duties involving supervisory, managerial, and administrative tasks (Duties A, B, C, D, and E) as they move upward to the 5- and 7-skill levels. Noted here is the fact the 3- and 5-skill level members have an 85 percent overlap in tasks performed.

TABLE 5
DISTRIBUTION OF SKILL-LEVEL MEMBERS
ACROSS CAREER LADDER JOBS
(PERCENT)

<u>JOB</u>	<u>45832</u> <u>(N=568)</u>	<u>45852</u> <u>(N=1,452)</u>	<u>45872</u> <u>(N=1,082)</u>
AIRCRAFT STRUCTURAL MAINTENANCE AND REPAIR	71	72	48
CORROSION CONTROL	15	17	13
QUALITY ASSURANCE	*	*	3
INSTRUCTION (AIRFRAME)	*	*	*
SUPERVISORY	*	1	19
TOOL CRIB/BENCH STOCK SUPPLY	*	2	3
NOT GROUPED	14	8	13

* Denotes less than 1 percent

TABLE 6

TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS
(RELATIVE PERCENT OF JOB TIME)

DUTIES	45832 (N=568)	45852 (N=1,452)	45872 (N=1,082)
A ORGANIZING AND PLANNING	1	2	9
B DIRECTING AND IMPLEMENTING	*	1	6
C INSPECTING AND EVALUATING	1	3	10
D TRAINING	*	1	5
E PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	3	6	12
F PERFORMING GENERAL AIRCRAFT STRUCTURAL MAINTENANCE	13	12	7
G PERFORMING GENERAL AIRCRAFT, SUPPORT EQUIPMENT, AND MISSILE INSPECTIONS	4	4	4
H PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	4	5	3
I TREATING AIRCRAFT AND SUPPORT EQUIPMENT	1	1	1
J APPLYING PROTECTIVE COATINGS	11	9	4
K REMOVING CORROSION AND PROTECTIVE COATINGS	6	5	3
L MAINTAINING CORROSION CONTROL EQUIPMENT	6	5	3
M REPAIRING, MODIFYING, AND FABRICATING METAL PARTS AND ASSEMBLIES OF AIRFRAME STRUCTURES	15	13	8
N PERFORMING SEALING ACTIVITIES	3	3	2
O INSTALLING AND REMOVING FASTENERS	15	13	8
P PERFORMING ADVANCED COMPOSITE STRUCTURAL AND HONEYCOMB CORE REPAIRS	1	1	1
Q PERFORMING FIBERGLASS STRUCTURAL AND HONEYCOMB CORE REPAIRS	3	4	3
R PERFORMING METAL BONDED HONEYCOMB CORE REPAIRS	1	2	1
S REPAIRING AND REPLACING TRANSPARENT PLASTICS	1	1	1
T MAINTAINING AIRCRAFT CABLES AND CABLE ASSEMBLIES	2	*	1
U MAINTAINING AIRCRAFT TUBING AND TUBING ASSEMBLIES	4	3	3
V BALANCING AIRCRAFT FLIGHT CONTROL SURFACES AND ALIGNING AIRCRAFT COMPONENT STRUCTURES	*	*	*
W PERFORMING MISSILE DISPATCH AND CORROSION CONTROL ACTIVITIES	*	*	*
X PERFORMING CORE AUTOMATED MAINTENANCE (CAMS) ACTIVITIES	3	3	4
Y PERFORMING CROSS-UTILIZATION TRAINING (CUT) ACTIVITIES	*	1	*

* Denotes less than 1 percent

Skill-Level Descriptions

DAFSC 45832. The 568 airmen in the 3-skill level group represent 18.3 percent of the survey sample. As shown in Table 5, 71 percent of these airmen are in the Aircraft Structural Maintenance cluster. They spend approximately half of their time performing general aircraft structural maintenance, applying protective coatings, repairing, modifying, and fabricating metal parts and assemblies of air frame structures, and installing/removing fasteners (see Table 6). Comparative data between skill levels show an 85 percent time spent overlap on common technical tasks being performed.

Examples of tasks likely to be performed by 3-skill level personnel include: drilling and countersinking fastener holes, cutting rivets, or preparing surfaces of aircraft and support equipment for painting. Table 7 displays selected representative tasks performed by a majority of these airmen.

DAFSC 45852. The 1,452 airmen in the 5-skill level group represent 47 percent of the total survey sample. Table 6 shows that 5-skill level personnel spend 13 percent of their relative job time performing duties which involve supervisory, managerial, training, and administrative tasks. The remaining 87 percent is spent on a broad range of technical duties comparable to those performed by 3-skill level personnel. Representative tasks performed by 5-skill level incumbents are listed in Table 8.

Although 5-skill level personnel spend more than half of their job time performing technical duties, it is the percent of job time spent on supervisory functions that distinguishes them from 3-skill level specialists. As stated in the AFSC 45832 duty description, there is a high percent overlap in technical tasks performed by 3- and 5-skill levels. Only the supervisory tasks performed by the 5-skill level personnel distinguish them from their junior counterparts.

DAFSC 41170A. Seven-skill level personnel represent 35 percent of the survey sample. Table 6 shows 42 percent of their relative job time is spent on tasks in supervisory, managerial, training, and administrative duties (nearly three times that of 5-skill level personnel). The remainder of their time is dedicated to technical duties. Representative tasks are presented in Table 9.

Tasks which best distinguish 7-skill level personnel from their junior counterparts are presented in Table 10. As expected, the key difference is a much greater emphasis on supervisory functions for 7-skill level airmen, as shown by the higher percentages of 7-skill respondents performing supervisory tasks listed in the lower half of the table.

Summary

Normal career ladder progression within the AFSC 458X2 career ladder is evident, with personnel at the 3-skill level spending the vast majority of their job time performing technical tasks and performing the core jobs of the Aircraft Structural Maintenance cluster. A moderate shift towards supervisory functions occurs at the 5-skill level, with members still spending more than

TABLE 7
REPRESENTATIVE TASKS PERFORMED BY AFSC 45832 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=568)
0729 COUNTERSINK FASTENER HOLES	82
0732 DRILL FASTENER HOLES	80
M662 CUT RIVETS	77
F309 PREPARE SURFACES USING PNEUMATIC SANDERS	75
M661 CUT AND TRIM SHEET METAL	74
F305 PREPARE SURFACES BY HAND SANDING	74
M650 ALIGN RIVET OR SPECIAL FASTENER HOLES	73
M693 REMOVE DAMAGED AREAS BY CHAIN DRILLING	71
0766 INSTALL OR REMOVE NUT PLATES, OTHER THAN GANG CHANNEL	71
M710 STOP DRILL CRACKS ON SHEET METAL	70
M707 SECURE SHEET METAL WITH CLECO FASTENERS	69
F260 APPLY MASKING MATERIALS TO SURFACES	68
M705 SCUFF UP METAL SURFACES	66
0734 INSPECT FASTENERS FOR FLUSH INSTALLATION	66
0767 INSTALL OR REMOVE PULL-THROUGH BLIND RIVETS	65
M682 INSTALL NONFLUSH SKIN REPAIRS	65
M694 REMOVE DAMAGED AREAS USING AVIATION SNIPS	64
M669 FABRICATE REPAIR PARTS	63
N718 APPLY SEALANT TO FASTENERS	63
M681 INSTALL FLUSH SKIN REPAIRS	63
0733 INSPECT DRILLED FASTENER HOLES	62
0755 INSTALL OR REMOVE HI-LOK FASTENERS	62
U942 CUT TUBING	62
M670 FORM AND TRIM METAL PATCHES OR REINFORCEMENTS	61
F312 REMOVE MASKING MATERIALS FROM SURFACES	61
0740 INSPECT INSTALLED NUT PLATES	61
J513 WIPE DOWN SURFACES PRIOR TO PAINTING	60
H360 CHANGE RESPIRATOR CARTRIDGES	60
U943 DEBURR, FILE, OR SAND TUBING	60
0778 MICROSHAVE FASTENERS	59
0777 LAY OUT PATTERNS FOR FASTENERS	57
M665 DEVELOP LAYOUTS FOR REPAIRS OR PARTS	57

TABLE 8

REPRESENTATIVE TASKS PERFORMED BY AFSC 45852 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=1,452)
0729 COUNTERSINK FASTENER HOLES	80
0732 DRILL FASTENER HOLES	80
F309 PREPARE SURFACES USING PNEUMATIC SANDERS	77
M661 CUT AND TRIM SHEET METAL	76
M662 CUT RIVETS	75
F305 PREPARE SURFACES BY HAND SANDING	75
M710 STOP DRILL CRACKS ON SHEET METAL	74
M707 SECURE SHEET METAL WITH CLECO FASTENERS	73
M650 ALIGN RIVET OR SPECIAL FASTENER HOLES	72
M693 REMOVE DAMAGED AREAS BY CHAIN DRILLING	72
0734 INSPECT FASTENERS FOR FLUSH INSTALLATION	71
M705 SCUFF UP METAL SURFACES	71
M682 INSTALL NONFLUSH SKIN REPAIRS	70
0766 INSTALL OR REMOVE NUT PLATES, OTHER THAN GANG CHANNEL	70
F260 APPLY MASKING MATERIALS TO SURFACES	69
0733 INSPECT DRILLED FASTENER HOLES	69
M669 FABRICATE REPAIR PARTS	69
0767 INSTALL OR REMOVE PULL-THROUGH BLIND RIVETS	68
M694 REMOVE DAMAGED AREAS USING AVATION SNIPS	68
F256 APPLY AERODYNAMIC SMOOTHING COMPOUNDS	66
0740 INSPECT INSTALLED NUT PLATES	66
0755 INSTALL OR REMOVE HI-LOK FASTENERS	65
M681 INSTALL FLUSH SKIN REPAIRS	65
N718 APPLY SEALANT TO FASTENERS	65
F301 PERFORM SPOTTER DUTIES DURING MOVEMENT OF SUPPORT EQUIPMENT, GOVERNMENT VEHICLES, OR AIRCRAFT	64
U942 CUT TUBING	64
M665 DEVELOP LAYOUTS FOR REPAIRS OR PARTS	64
M712 TRIM AND FIT DOORS OR ACCESS PANELS	64
C75 CLEAR RED-DIAGONAL CONDITIONS	63
M670 FORM AND TRIM METAL PATCHES OR REINFORCEMENTS	63
C74 CLEAR RED-DASH CONDITIONS	62

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY DAFSC 45872 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=1,082)
C121 WRITE EPRs	75
A1 ASSIGN MAINTENANCE AND REPAIR WORK	69
B69 SUPERVISE AIRCRAFT STRUCTURAL MAINTENANCE SPECIALISTS (AFSC 45852)	67
C79 CONDUCT PERFORMANCE FEEDBACK WORKSHEET (PFW) EVALUATION SESSIONS	67
B44 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	64
C75 CLEAR RED-DIAGONAL CONDITIONS	64
E198 INVENTORY COMPOSITE TOOL KITS (CTKs)	63
A16 DETERMINE OR ESTABLISH WORK PRIORITIES	63
C76 CLEAR RED-X CONDITIONS	63
C74 CLEAR RED-DASH CONDITIONS	62
C107 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	60
O734 INSPECT FASTENERS FOR FLUSH INSTALLATION	60
X1009 ACCESS CAMS MENUS AND DATA SCREENS	58
B68 SUPERVISE APPRENTICE AIRCRAFT STRUCTURAL MAINTENANCE SPECIALISTS (AFSC 45832)	57
D128 CONDUCT OJT	57
O729 COUNTERSINK FASTENER HOLES	57
O733 INSPECT DRILLED FASTENER HOLES	56
O732 DRILL FASTENER HOLES	56
M661 CUT AND TRIM SHEET METAL	56
O740 INSPECT INSTALLED NUT PLATES	55
O739 INSPECT INSTALLED MECHANICAL-LOCK BLIND RIVETS	55
C93 EVALUATE PERSONNEL FOR COMPLIANCE WITH PERFORMANCE STANDARDS OR TECHNICAL ORDERS	54
M662 CUT RIVETS	53
G325 DETERMINE EXTENT OF STRUCTURAL DAMAGES	52
M650 ALIGN RIVET OR SPECIAL FASTENER HOLES	52
G342 INSPECT REPAIRED OR DAMAGED AREAS USING HAMMER TAP OR COIN TAP METHODS	51
G340 INSPECT INSTALLED RIVETS FOR STRUCTURAL DEFORMITIES	51
M707 SECURE SHEET METAL WITH CLECO FASTENERS	50

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 45852 AND 45872 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	45852 (N=1,452)	45872 (N=1,082)	DIFFERENCE
F309 PREPARE SURFACES USING PNEUMATIC SANDERS	77	50	27
F305 PREPARE SURFACES BY HAND SANDING	75	50	25
M710 STOPDRILL CRACKS ON SHEET METAL	74	50	24
O729 COUNTERSINK FASTENER HOLES	80	57	23
O732 DRILL FASTENER HOLES	80	57	23
M707 SECURE SHEET METAL WITH CLECO FASTENERS	73	50	23
M662 CUT RIVETS	75	53	22
M693 REMOVE DAMAGED AREAS BY CHAIN DRILLING	72	50	22
M661 CUT AND TRIM SHEET METAL	76	56	20
M650 ALIGN RIVET OR SPECIAL FASTENER HOLES	72	52	20
A26 ESTABLISH WORK SCHEDULES	31	75	-44
A1 ASSIGN MAINTENANCE AND REPAIR WORK	20	63	-44
A33 PLAN OR SCHEDULE WORK ASSIGNMENTS	27	67	-40
C93 EVALUATE PERSONNEL FOR COMPLIANCE WITH PERFORMANCE STANDARDS OR TECHNICAL ORDERS	24	64	-39
C118 WRITE RECOMMENDATIONS FOR AWARDS OR DECORATIONS	6	44	-38
C107 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	29	67	-38
B69 SUPERVISE AIRCRAFT STRUCTURAL MAINTENANCE SPECIALISTS (AFSC 45852)	25	60	-35
B70 SUPERVISE AIRCRAFT STRUCTURAL MAINTENANCE TECHNICIANS (AFSC 45872)	10	45	-35
B44 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	21	55	-34
C79 CONDUCT PERFORMANCE FEEDBACK WORKSHEET (PFW) EVALUATION SESSIONS	15	49	-34
C76 CLEAR RED-X CONDITIONS	37	69	-32
C121 WRITE EPRs	10	40	-30

87 percent of their duty time performing technical functions. Personnel at the 7-skill level primarily perform supervisory functions, although a small percentage of their time is still spent on technical duties. These incumbents also perform the supervisory and quality assurance functions for this career ladder.

ANALYSIS OF AFR 39-1 SPECIALTY DESCRIPTIONS

Survey data were compared to the AFR 39-1 Specialty Descriptions for Aircraft Structural Maintenance Specialists and Technicians, dated 15 March 1991, effective 30 April 1991. The descriptions for the 3-, 5-, and 7-skill levels were generally accurate, depicting the highly technical aspects of the job, as well as the increase in supervisory responsibilities previously described in the DAFSC analysis. The descriptions also capture the primary responsibilities of members in the six jobs identified by the job structure analysis process.

TRAINING ANALYSIS

Occupational survey data are sources of information which can be used to assist in the development of relevant training programs for entry-level personnel. Factors used to evaluate entry-level Missile Systems Maintenance training include jobs performed by first-enlistment personnel, overall distribution of first-enlistment personnel across career ladder jobs, percent first-job (1-24 month TAFMS) and first-enlistment (1-48 months TAFMS) members performing specific tasks or using specific equipment items, ratings of how much training emphasis tasks should receive in formal training, and ratings of relative training difficulty.

First-Enlistment Personnel

In this study, there are 1,040 members in their first enlistment (1-48 months TAFMS), representing 34 percent of the survey sample. Jobs they perform are displayed in Figure 2. As displayed in Table 11, approximately 94 percent of their duty time is devoted to technical task performance, the majority of which is contained in four duties: performing general aircraft structural maintenance; applying protective coatings; repairing, modifying, and fabricating metal parts and assemblies of airframe structures; and installing and removing fasteners. As shown in Table 5, the vast majority of first-term personnel are involved in day-to-day aircraft structural maintenance or corrosion control activities. Table 12 displays typical examples of common tasks performed by first-enlistment personnel. Examples include: drill/countersink fastener holes, prepare surfaces using pneumatic sanders, cut rivets, and prepare surfaces by hand sanding. Table 13 displays equipment items used by 30 percent or more of first-job or first-enlistment personnel.

FIRST-ENLISTMENT CAREER LADDER JOBS

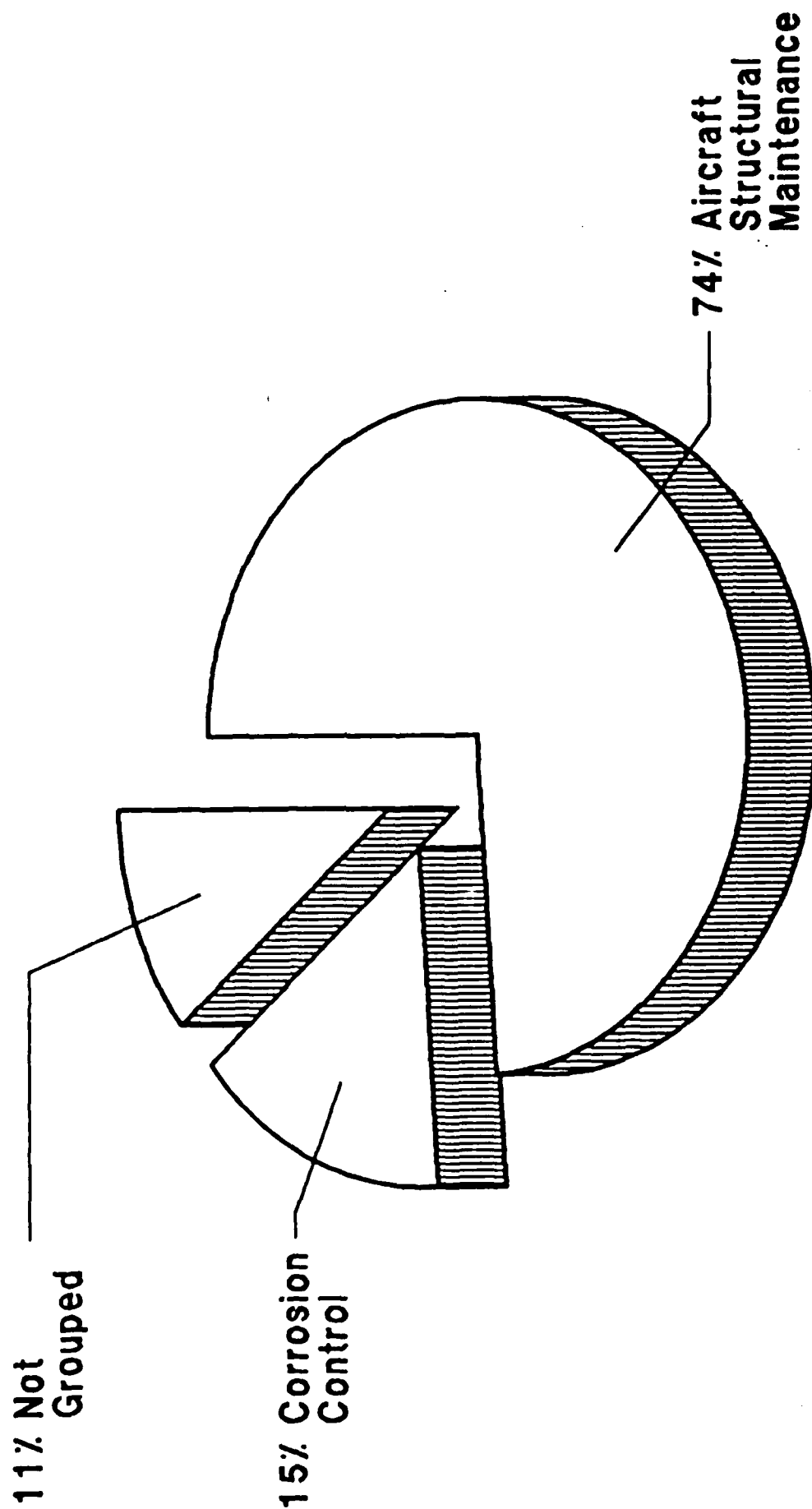


Figure 2

TABLE 11
RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY
FIRST-ENLISTMENT PERSONNEL

DUTIES	PERCENT TIME SPENT
A ORGANIZING AND PLANNING	1
B DIRECTING AND IMPLEMENTING	*
C EVALUATING AND INSPECTING	2
D TRAINING	*
E PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	3
F PERFORMING GENERAL AIRCRAFT STRUCTURAL MAINTENANCE	13
G PERFORMING GENERAL AIRCRAFT, SUPPORT EQUIPMENT, AND MISSILE INSPECTIONS	5
H PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	4
I TREATING AIRCRAFT AND SUPPORT EQUIPMENT	1
J APPLYING PROTECTIVE COATINGS	10
K REMOVING CORROSION AND PROTECTIVE COATINGS	6
L MAINTAINING CORROSION CONTROL EQUIPMENT	6
M REPAIRING, MODIFYING, AND FABRICATING METAL PARTS AND ASSEMBLIES OF AIRFRAME STRUCTURES	15
N PERFORMING SEALING ACTIVITIES	3
O INSTALLING AND REMOVING FASTENERS	14
P PERFORMING ADVANCED COMPOSITE STRUCTURAL AND HONEYCOMB CORE REPAIRS	1
Q PERFORMING FIBERGLASS STRUCTURAL AND HONEYCOMB CORE REPAIRS	3
R PERFORMING METAL BONDED HONEYCOMB CORE REPAIRS	2
S REPAIRING AND REPLACING TRANSPARENT PLASTICS	1
T MAINTAINING AIRCRAFT CABLES AND CABLE ASSEMBLIES	2
U MAINTAINING AIRCRAFT TUBING AND TUBING ASSEMBLIES	4
V BALANCING AIRCRAFT FLIGHT CONTROL SURFACES AND ALIGNING AIRCRAFT COMPONENT STRUCTURES	*
W PERFORMING MISSILE DISPATCH AND CORROSION CONTROL ACTIVITIES	*
X PERFORMING CORE AUTOMATED MAINTENANCE (CAMS) ACTIVITIES	3
Y PERFORMING CROSS UTILIZATION TRAINING (CUT) ACTIVITIES	1

* Denotes less than 1 percent

TABLE 12
REPRESENTATIVE TASKS PERFORMED BY
FIRST-ENLISTMENT PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=1,040)
0729 COUNTERSINK FASTENER HOLES	83
0732 DRILL FASTENER HOLES	81
M662 CUT RIVETS	79
F309 PREPARE SURFACES USING PNEUMATIC SANDERS	79
M661 CUT AND TRIM SHEET METAL	77
F305 PREPARE SURFACES BY HAND SANDING	77
M710 STOP DRILL CRACKS ON SHEET METAL	75
M650 ALIGN RIVET OR SPECIAL FASTENER HOLES	74
M693 REMOVE DAMAGED AREAS BY CHAIN DRILLING	74
0766 INSTALL OR REMOVE NUT PLATES, OTHER THAN GANG CHANNEL	73
M707 SECURE SHEET METAL WITH CLECO FASTENERS	72
M705 SCUFF UP METAL SURFACES	71
F260 APPLY MASKING MATERIALS TO SURFACES	70
0734 INSPECT FASTENERS FOR FLUSH INSTALLATION	70
M682 INSTALL NONFLUSH SKIN REPAIRS	70
0767 INSTALL OR REMOVE PULL-THROUGH BLIND RIVETS	69
M694 REMOVE DAMAGED AREAS USING AVIATION SNIPS	69
0733 INSPECT DRILLED FASTENER HOLES	66
M669 FABRICATE REPAIR PARTS	66
J513 WIPE DOWN SURFACES PRIOR TO PAINTING	65
0740 INSPECT INSTALLED NUT PLATES	65
N718 APPLY SEALANT TO FASTENERS	65
M670 FORM AND TRIM METAL PATCHES OR REINFORCEMENTS	64
F312 REMOVE MASKING MATERIALS FROM SURFACES	64
0777 LAY OUT PATTERNS FOR FASTENERS	62

TABLE 13

EQUIPMENT, TOOLS, MATERIALS USED BY MORE THAN 30 PERCENT OF FIRST-
ENLISTMENT PERSONNEL

<u>EQUIPMENT</u>	<u>1ST ENL (N=1,040)</u>
ABRASIVE DISCS	93
FLASHLIGHTS	90
HAMMERS, VARIOUS TYPES	90
SANDERS, PNEUMATIC	89
SCRIBES	89
COUNTERSINKS	88
DRILLS, PNEUMATIC	88
FILES, HAND	88
BUCKING BARS	87
FILES, ROTARY	87
AVIATION SNIPS	86
COMMON HAND TOOLS	85
MASKING TAPES/MATERIALS	85
PUNCHES, VARIOUS TYPES	85
CUTTERS, RIVET	84
COMPRESSORS, AIR	82
CUTTING TOOLS (SUCH AS: CHISELS, HACKSAWS, SNIPS)	82
MACHINES, BOX AND PAN BRAKE	81
RESPIRATORS, CARTRIDGE	81
SPRAY CANS, AEROSOL	81
STRAIGHT EDGES	81
APEX BITS	80
INSPECTION MIRRORS	80
MACHINES, CORNICE BRAKE	80
EQUIPMENT/CLOTHING, PERSONAL PROTECTION	79
MICROSHAVERS	79
PAPER, ABRASIVE	78
RIVET PULL TOOLS, HAND	78
CUTTERS, TUBE	77
EQUIPMENT, TUBE BENDING	77
TUBE BENDERS, HAND	77
EQUIPMENT, TUBE FLARING	76
PRESSES, DRILL	76
RAZORS, UTILITY	76
VACUUM CLEANERS	75
PAINT BRUSHES	74
RESPIRATORS, AIR SUPPLY	74
ABRASIVE MATS	73
EQUIPMENT, POWERED SANDING	73
MALLETS (SUCH AS PLAIN-FACE AND STRETCHING)	73
STANDS, MAINTENANCE	73
CLAMPS	72
DIES, DIMPLING	71

TABLE 13 (CONTINUED)

EQUIPMENT, TOOLS, MATERIALS USED BY MORE THAN 30 PERCENT OF FIRST-
ENLISTMENT PERSONNEL

<u>EQUIPMENT</u>	<u>1ST ENL (N=1,040)</u>
MACHINES, SHRINKING	71
PAINT SHAKERS	71
CHEESE CLOTH	70
BRUSHES, PAINT	69
MACHINES, STRETCHING	69
SPRAY GUNS, CONVENTIONAL PAINT	69
ABRASIVE WHEELSECTOR ADAPTER SET	68
EQUIPMENT, METAL FORMING	68
MACHINES, SINGLE-FLARING	68
RIVET SETS, OTHER THAN SPECIAL SWAGING HI-SHEAR	68
TEMPLATES	68
CABLE SWAGERS	67
MACHINES, DOUBLE FLARING	66
MACHINES, STENCIL CUTTING	66
MACHINES, SLIP ROLL FORMING	65
AIRCRAFT MARKING PENCILS, MIL-P-83953	63
BRUSHES, HAND WIRE	63
EQUIPMENT, CABLE SWAGING AND TESTING	62
MACHINES, DIMPLING STATIONARY	61
TUBE BENDERS, PRODUCTION	61
HEAT LAMPS, PORTABLE	58
CUTTERS, CABLE	57
CUTTERS, PAPER	57
GAUGES, DEPTH	57
MACHINES, BAR FOLDER	57
SCRAPERS, PAINT	57
SQUARING SHEARS, POWER OPERATED	57
CUPS, ZAHN	56
KNIVES, STENCIL	56
RESPIRATORS, DISPOSABLE	56
DIES, FLANGING	55
FORMING BRAKES	55
GRINDERS, BENCH	55
MAGNETS	55
TACK RAGS	55
TUBE BENDERS, MECHANICAL	55
STRAINERS	54
GRINDERS, PNEUMATIC	53
SHEARS, HANDLEVER-TYPE	53
SQUARING SHEARS, MANUALLY OPERATED	53
SLIP ROLL FORMERS, HAND	52
PULL GUNS, PNEUMATIC CP-353	51
ROUTERS	51

TABLE 13 (CONTINUED)

EQUIPMENT, TOOLS, MATERIALS USED BY MORE THAN 30 PERCENT OF FIRST-
ENLISTMENT PERSONNEL

<u>EQUIPMENT</u>	<u>1ST ENL (N=1,040)</u>
SPRAY POWER PACKS, AEROSOL	51
SCRAPERS, PHENOLIC	49
COMPRESSORS, AIR BREATHING, PORTABLE	48
DIMPLERS, STATIONARY CP-450EA	48
MICROMETERS	48
SWAGE SETS	48
GRINDERS, DIE	47
MACHINES, CABLE CUTTING	47
BRUSH ATTACHMENTS, WIRE	46
ROTARY WIRE WHEELS	46
HEAT LAMPS, INFRARED	44
MICROFICHE VIEWERS	44
PERMASUAGE FITTINGS/COUPLINGS	44
PAINT ROLLERS	43
PERMASUAGE TOOLS	43
PUNCHES, ROTARY/TURRENT	43
REAMERS	43
SPRAY GUNS, HIGH VOLUME/LOW PRESSURE	42
HEAT BLANKETS	41
INSTALLATION KITS, PERMASUAGE	41
MACHINES, POWER FLANGING	41
VACUUM PUMPS	41
BLASTERS, ABRASIVE	40
CABLE SWAGING TOOLS, HAND	40
HOLDERS, DIMPLING DIE	40
HOLDERS, RIVET-SET TYPE APEX	40
MAGNIFYING GLASSES	40
PAINT ROLLING PANS	40
ANVIL/CHUCK MANDRELS	39
PUNCHES, WHITNEY	39
SAWS, KETTS CIRCLE	39
SCALES, TRIPLE BEAM BALANCE	39
STANDS, SUPPORT ADJUSTABLE	39
LAYOUT DYES (PRUSSIAN BLUE)	38
SPRAY BOOTHS, DRY	38
TESTER, SWAGE TERMINAL PULL	38
CALIPERS, INSIDE-OUTSIDE	37
PAINT CURING BOOTHS	37
SPRAY BOOTHS, AIRCRAFT	37
TANKS, STRIPPING	37
CHERRY PICKERS	36
EQUIPMENT, SUCTION-FEED SPRAY	36
HEATERS	36

TABLE 13 (CONTINUED)

EQUIPMENT, TOOLS, MATERIALS USED BY MORE THAN 30 PERCENT OF FIRST-
ENLISTMENT PERSONNEL

<u>EQUIPMENT</u>	<u>1ST ENL (N=1,040)</u>
FORMING STAKES	35
GRINDERS, PEDESTAL	35
SPRAY GUNS, AIRLESS, OTHER THAN ELECTROSTATIC	35
PRESSURE POTS	35
DOLLIES	34
NIBLERS	34
RESTRAINT HARNESS	33
LIGHTS, DROP	32
LIGHT-ALLS NF-2	32
MACHINES, DIMPLING PORTABLE	32
PERMASUAGE HYDRAULIC UNITS	32
SPRAY BOOTHS, WET	32
DEVICES, SECURING	31
FIXTURES, DRILL, PORTABLE	31
SQUARING SHEARS, GAP	31
WRENCH ADAPTERS	31
WRENCH, TORQUE	31
COMPOSITE REPAIR TOOL KITS	30
SAWS, CONTOUR METAL CUTTING	30
SAWS, RECIPROCATING	30

These items, such as abrasive discs, countersinks, flashlights, hammers, pneumatic sanders, straight edges, or tube benders are related to performing the typical technical jobs or related tasks listed in Table 12.

Within the groups identified in the SPECIALTY JOBS section of this report, first-term personnel were present in three of the six jobs: Aircraft Structural Maintenance and Repair, Corrosion Control, and Tool Crib/Bench Stock Supply. Tables 13 through 18 provide examples of equipment, tools, materials, type of blasting facility, booth, or cabinet, primary means of stripping aircraft parts, sealing jobs, special fasteners, and chemicals used by 30 percent or more of the first-enlistment personnel.

Training Emphasis and Task Difficulty Data

TE and TD data are secondary factors that can help training development personnel decide which entry-level tasks to emphasize. These ratings, based on the judgments of senior career ladder NCOs at operational units, provide training personnel with a rank-ordering of those tasks considered important for first-term airman training (TE) and a measure of the difficulty of those tasks (TD). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD), accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-term personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To help in this determination, an Automated Training Indicator (ATI) is determined for each task in the inventory. ATI combines first-enlistment percent members performing with TE and TD data to identify training decisions based on a decision logic table contained in ATCR 52-22, Atch 1. The ATI is numbered 1 to 18, with an 18 being the highest level of training indicated. An ATI of 7 or less may lead to a training decision of OJT only. To illustrate how the ATI is used, if a task has received high TE and TD ratings, and also has a high percentage of first-term members performing, then a high ATI rating is assigned to the task. With a high ATI rating, strong recommendations can be made to emphasize training the task in a resident training course.

Examples of tasks having the highest TE and TD ratings are listed in Table 19. Included for each task are the percentage of first-job and first-enlistment personnel performing. As illustrated in the table, most of these tasks pertain to areas where first-enlistment personnel spend the majority of their duty time, e.g., repairing, modifying, and fabricating metal parts and assemblies of airframe structures and installing and removing fasteners.

TABLE 14

TYPE OF BLASTING FACILITY, BOOTH, OR CABINET USED
BY MORE THAN 30 PERCENT OF FIRST-ENLISTMENT PERSONNEL

<u>FACILITY/BOOTH/CABINET</u>	<u>1ST ENL (N=1,040)</u>
PLASTIC MEDIA	53
NONE	20
SAND	12
GLASS BEAD	11
NO RESPONSE	3
OTHER	1
METAL SHOT	0
WALNUT SHELL	0

TABLE 15

PRIMARY MEANS OF STRIPPING AIRCRAFT PARTS
BY MORE THAN 30 PERCENT OF FIRST-ENLISTMENT PERSONNEL

<u>MEANS OF STRIPPING</u>	<u>1ST ENL (N=1,040)</u>
CHEMICAL	47
PMB	32
NONE	10
GLASS BEAD	4
OTHER	3
NO RESPONSE	3
WALNUT SHELL	1

TABLE 16
SEALING JOBS PERFORMED BY 30 PERCENT
OF FIRST-ENLISTMENT PERSONNEL

<u>SEALING JOB</u>	<u>1ST ENL (N=1,040)</u>
WEATHER SEALING	65
PRESSURIZED SEALING	56
HIGH TEMPERATURE SEALING	34
FIREWALL SEALING	32
FUEL AREA SEALING	30

TABLE 17

SPECIAL FASTENERS/INSTALLATION TOOLS USED
BY 30 PERCENT OF FIRST-ENLISTMENT PERSONNEL

<u>SPECIAL FASTENER/TOOL</u>	<u>1ST ENL (N=1,040)</u>
BLIND RIVETS, PULL-THROUGH	84
RIVET SQUEEZERS, PNEUMATIC	84
FASTENERS, CLECO	83
CHERRY MAXES, G704	82
FASTENERS, HI-LOK	81
FASTENERS, JO-BOLTS	79
RIVET SQUEEZERS, HAND	76
INSTALLATION TOOLS, JO-BOLTS	73
INSTALLATION TOOLS, PULL-THROUGH BLIND RIVET	73
RIVETS, SOLID SHANK	73
NUTS, SELF LOCKING	66
RIVET GUNS, PNEUMATIC 4X	66
BLIND RIVETS, MECHANICAL LOCK	60
RIVET GUNS, PNEUMATIC 3X	60
RIVETERS, PNEUMATIC	60
INSTALLATION TOOLS, MECHANICAL-LOCK BLIND RIVET	58
RIVET GUNS, PNEUMATIC 6X	58
RIVETS, HI-SHEAR	58
RIVET GUNS, PNEUMATIC 2X	55
SQUEEZERS, PORTABLE CP351	48
RIVETERS, HAND G36	45
BLIND RIVETS, FRICTION LOCK	43
FASTENERS, STRUCTURAL CAMLOC (4002)	43
BOLTS, SELF-LOCKING	41
FASTENERS, TAPER-LOK	40
INSTALLATION TOOLS, FRICTION-LOCK BLIND RIVET	40
BLIND BOLTS, HI-SHEAR THREADED	39
BOLTS, HI-TORQUE	39
FASTENERS, AIRLOCK	39
RIVETERS, HAND HP2	38
INSTALLATION TOOLS, MECHANICAL-LOCK BLIND B1	35
NUTS, BLIND	35
BLIND BOLTS, MECHANICAL-LOCK (BT-100)	31

TABLE 18

CHEMICALS USED BY 30 PERCENT
OF FIRST-ENLISTMENT PERSONNEL

<u>CHEMICAL</u>	<u>1ST ENL (N=1,040)</u>
METHYL ETHYL KETONE (MEK)	85
PRIMERS, EPOXY MIL-P-23377	70
THINNERS	69
NAPTHA	63
EPOXY	54
CORROSION PREVENTING COMPOUNDS (CPC)	50
COATINGS, ALIPHATIC POLYURETHANE	48
COATINGS, POLYURETHANE RAIN-EROSION-RESISTANT MIL-C-83231	47
PRIMERS, ZINC CHROMATE TT-P-1757	41
ENAMELS, ALKALYD GLOSS TT-E-489	39
ALCOHOL, ISOPROPYL	38
COATINGS, WALKWAY	37
LACQUERS, ACRYLIC NITROCELLULOSE CAMOUFLAGE MIL-L-19538	37
ENAMELS, ALKALYD SEMIGLOSS TT-E-529	32
LACQUERS, ACRYLIC NITROCELLULOSE-GLOSS MIL-L-19537	31
PAINT REMOVERS, MIL-R-25134	31
SEALANTS, CORROSION INHIBITING	31
TOLUOL, TOLUENE	42

TABLE 19

TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS	TNG EMP	PERCENT MEMBERS PERFORMING		TSK DIFF
		1ST JOB	1ST ENL	
M681 INSTALL FLUSH SKIN REPAIRS	6.74	65	66	6.50
M682 INSTALL NONFLUSH SKIN REPAIRS	6.61	68	70	5.71
M680 INSTALL COMBINATION SUBSTRUCTURAL MEMBER AND SKIN REPAIRS	6.43	50	53	7.03
F316 RESEARCH TECHNICAL DATA FOR REPAIR PROCEDURES	6.30	55	57	5.34
M669 FABRICATE REPAIR PARTS	6.26	64	66	6.22
G330 IDENTIFY TYPES OF CORROSION	6.26	47	51	4.96
M683 INTERPRET DRAWINGS AND BLUEPRINTS	6.23	44	46	6.80
O777 LAY OUT PATTERNS FOR FASTENERS	6.21	61	62	5.39
U940 BEND TUBING USING PRODUCTION TUBE BENDERS	6.20	49	51	6.43
M665 DEVELOP LAYOUTS FOR REPAIRS OR PARTS	6.14	59	61	5.90
M712 TRIM AND FIT DOORS OR ACCESS PANELS	5.97	55	60	6.36
O729 COUNTERSINK FASTENER HOLES	5.93	84	83	4.68
M711 TRIM AND FIT AIRCRAFT SKINS	5.81	56	59	6.28
O772 INSTALL OR REMOVE SOLID-SHANK RIVETS	5.81	61	60	4.20
M670 FORM AND TRIM METAL PATCHES OR REINFORCEMENTS	5.79	62	64	5.67
O732 DRILL FASTENER HOLES	5.76	82	81	4.18
U939 BEND TUBING USING HAND TUBE BENDERS	5.71	59	61	5.51
M684 LAY OUT SHEET METAL MATERIALS FOR LOCAL MANUFACTURING	5.71	40	45	6.06
T925 FABRICATE CABLE ASSEMBLIES	5.66	39	39	5.54
G324 DETERMINE DEPTH OF CORROSION DAMAGES	5.63	37	40	5.71
E198 INVENTORY COMPOSITE TOOL KITS (CTKs)	5.61	35	38	3.35
K514 DETERMINE CORROSION REMOVAL LIMITS	5.61	29	32	5.74
Q860 PREPARE RESIN MIXTURES	5.61	38	43	4.80
G327 IDENTIFY CAUSES OF CORROSION	5.57	38	41	5.58
O734 INSPECT FASTENERS FOR FLUSH INSTALLATION	5.57	71	70	4.19
O778 MICROSHAVE FASTENERS	5.57	61	62	4.74
M661 CUT AND TRIM SHEET METAL	5.56	76	77	4.06
T934 TEST SWAGED CABLE TERMINALS	5.56	43	41	5.11
O755 INSTALL OR REMOVE HI-LOK FASTENERS	5.54	64	66	5.01
Q837 APPLY FIBERGLASS REPAIR MATERIALS TO DAMAGED AREAS	5.54	46	49	5.20
U963 SINGLE FLARE OR DOUBLE FLARE TUBING	5.51	48	48	5.14
O761 INSTALL OR REMOVE JO-BOLT FASTENERS	5.51	61	62	5.38
G334 INSPECT AIRCRAFT SURFACES FOR CORROSION	5.50	46	50	5.50

TE MEAN = 2.78, S.D. = 1.51 (High = 4.29)

TD MEAN = 5.00, S.D. = 1.00

Table 20 lists examples of tasks having the highest TD ratings. Percentages of first-job and first-enlistment, 5-, and 7-skill level personnel performing, and TE rating are also included for each task. Most tasks listed in Table 20 are of supervisory and technical nature, and DAFSC 45832 and 45852 personnel spend relatively little time performing them. Most have very low TE ratings, indicating these tasks are not appropriate for structured training.

Various lists of tasks, accompanied by TE and TD ratings, are contained in the TRAINING EXTRACT package and should be reviewed in detail by training development personnel. For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the SURVEY METHODOLOGY section of this report.

Specialty Training Standard (STS)

A comprehensive review of the STS was made by comparing survey data to STS elements. Technical school personnel from both the Chanute and Sheppard Training Centers matched job inventory tasks to appropriate STS sections and subsections. A complete computer listing displaying the percent members performing tasks, TE and TD ratings for each task, along with the STS matchings, has been forwarded to the technical school for further review of training documents.

Typically, tasks which have sufficiently high TE and TD ratings, and are performed by at least 20 percent of personnel in appropriate experience or skill-level groups (such as first-enlistment or 1-48 months TAFMS, and 5- and 7-skill level groups), should be considered for inclusion in the STS. Likewise, tasks with less than 20 percent performing in all of these groups should be considered for deletion from the STS. Nineteen (19) line items with a high TE or high TD were noted among 164 line items not referenced in the STS match. A sample of these items is in Table 21, along with the accompanying job inventory task and survey data. Areas noted include the corrosion control program, identifying various aircraft components, classifying damage, and working with plastics. Training personnel and SMEs should review these areas to determine if inclusion in future revisions to the STS is warranted.

Tasks not matched to any element of the STS are listed at the end of the STS computer listing. These were reviewed to determine if there were any tasks concentrated around any particular functions or jobs. Tasks not supported were found under 11 of the 25 duty headings (3 supervisory/8 technical). Only seven of the items had a moderate to high ATI (above seven). All other task items had a low training indicator (below 7), and 34 of the tasks were not being performed by first-job/first-enlistment personnel. Of the 167 tasks not referenced to the STS, 13 were managerial or supervisory in nature and are not normally matched to an STS.

Examples of technical tasks performed by at least 20 percent of STS target group respondents, but which are not referenced to any STS element, are displayed in Table 22. Training personnel and SMEs should review these and other unreferenced tasks to determine STS inclusion.

TABLE 20

SAMPLE OF TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS	TSK DIFF	PERCENT MEMBERS PERFORMING					TNG EMP
		1ST JOB	1ST ENL	45852	45872		
B53 DRAFT CORROSION CONTROL CONTRACTS	7.90	1	1	2	3	.21	
B54 DRAFT HIGHER HEADQUARTERS DIRECTIVES	7.73	1	0	1	4	.10	
D133 DEVELOP FORMAL COURSE CURRICULA, PLANS OF INSTRUCTIONS (POI), OR SPECIALTY TRAINING STANDARDS (STS)	7.58	0	0	2	7	.36	
A21 DRAFT BUDGET REQUIREMENTS	7.42	1	1	3	14	.21	
C120 WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS, OTHER THAN TRAINING REPORTS	7.28	0	0	2	12	.46	
D132 DEVELOP CAREER DEVELOPMENT COURSES (CDC) OR CURRICULA MATERIALS	7.16	0	0	1	4	.57	
C118 WRITE RECOMMENDATIONS FOR AWARDS OR DECORATIONS	7.15	1	1	10	45	1.47	
A31 PLAN MOBILITY EXERCISES	7.15	1	1	2	6	.09	
V974 ESTABLISH SETUP POINTS FOR OPTICAL ALIGNMENT OF AIRCRAFT	7.09	1	1	1	1	.99	
A30 PLAN FACILITY LAYOUTS	7.08	1	1	3	13	.16	
A7 COORDINATE DISPOSAL OF CHEMICALS WITH ENVIRONMENTAL ENGINEERS	7.04	3	3	8	21	1.93	
M680 INSTALL COMBINATION SUBSTRUCTURAL MEMBER AND SKIN REPAIRS	7.03	50	53	58	44	6.43	
A8 COORDINATE DISPOSAL OF WASTE MATERIALS WITH HAZARDOUS WASTE MONITORS	7.03	5	5	12	30	2.90	
O780 PRECISION REAM HOLES FOR TAPER-LOK FASTENERS	7.01	15	16	19	19	4.10	
P816 PERFORM HONEYCOMB CORE DAMAGE REPAIRS ON BORON/EPOXY STRUCTURES	7.01	5	6	4	3	3.53	
V973 ESTABLISH ALIGNMENT REFERENCE PLANES WITH AUTOREFLECTION TARGETS AND ANGLE MIRRORS	7.00	0	0	0	0	.99	
A24 ESTABLISH ORGANIZATIONAL POLICIES, SUCH AS STANDING OPERATING PROCEDURES (SOP)	7.00	0	0	4	19	.36	
A36 PREPARE AGENDA FOR STAFF MEETINGS, CONFERENCES, WORKSHOPS, OR SYMPOSIUMS	6.99	1	1	2	10	.03	
P817 PERFORM HONEYCOMB CORE DAMAGE REPAIRS ON GRAPHITE/EPOXY STRUCTURES	6.99	5	7	6	4	3.53	
E183 DEVELOP AIRCRAFT INSPECTION WORKCARDS	6.96	1	1	1	5	.40	
P820 PERFORM SCARF REPAIRS ON GRAPHITE/EPOXY STRUCTURES	6.95	2	4	3	4	3.14	
Q853 PERFORM FLUTED RADOME CORE REPAIRS	6.94	3	3	6	6	3.09	
C82 EVALUATE CORROSION CONTROL CONTRACTS	6.93	1	1	2	5	.34	
P821 PERFORM STEP-JOINT REPAIRS ON ARANID/EPOXY STRUCTURES	6.92	4	5	4	4	3.17	
P818 PERFORM LAMINATED REPAIRS ON BORON/EPOXY STRUCTURES	6.90	4	4	4	2	3.46	
C81 EVALUATE CAUSES OF MISSION OPERATIONAL DISCREPANCIES	6.89	1	1	2	10	.50	
A15 DETERMINE OR ESTABLISH LOGISTICS REQUIREMENTS, SUCH AS PERSONNEL, SPACE, EQUIPMENT, TOOLS, OR SUPPLIES	6.89	3	3	10	31	.60	
A37 REVIEW CORROSION CONTROL CONTRACTS	6.86	1	1	2	6	.37	

TD MEAN = 5.00, S.D. = 1.00

TE MEAN = 2.78, S.D. = 1.51 (HIGH = 4.29)

TABLE 21

EXAMPLES OF STS ITEMS NOT SUPPORTED BY OSR DATA

STS REFERENCE/TASKS	3-LVL COURSE PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING			TSK DIF**
			1ST ENL (N=1,040)	5-SKILL LEVEL (N=1,452)	7-SKILL LEVEL (N=1,082)	
9a. Corrosion Control Program	A					
E241 Review semiannual Department of Air Force corrosion summaries		.70	1	4	13	4.73
12a(1). Identify Components	-					
S905 Identify types of transparent plastics by applying acetone and zinc chloride		1.66	0	1	1	5.37
12a(2). Classify Damage	-					
S889 Classify damaged transparent plastic assemblies		3.16	4	8	8	5.47
S896 Determine depth of damage to canopies or plexiglass using optical micrometers		3.70	5	7	7	6.33
15c(1)(b). Plastics	-					
S902 Identify crazing fissures		3.07	4	9	8	5.19
S919 Visually inspect transparent plastic assemblies		2.73	6	10	11	5.08
S904 Identify fastener hole crackings using prism method		2.44	1	2	2	5.43

* TE Mean = 2.78, S.D. = 1.51 (High TE = 4.29)

** TD Mean = 5.00, S.D. = 1.00

TABLE 22

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR
MORE AFSC 458X2 RESPONDENTS AND NOT REFERENCED TO THE STS

TASKS	PERCENT MEMBERS PERFORMING			TNG EMP*	TASK DIF**
	1ST ENL (N=1,040)	DAFSC 45852 (N=1,452)	DAFSC 45872 (N=1,082)		
K572 REMOVE PROTECTIVE COATINGS USING HAND ABRASIVES	38	35	20	3.16	3.97
J486 CLEAN RESIDUE FROM BASE SURFACES	23	21	11	3.69	4.02
J485 CLEAN AREAS AFTER APPLYING PROTECTIVE COATINGS	26	27	19	4.24	4.26
J484 BLEND PAINT COLORS	22	21	11	3.89	6.58
I413 WIPE CLEAN AIRCRAFT PARTS	31	28	17	2.43	3.20
I398 LUBRICATE SHOP EQUIPMENT	57	54	34	3.71	3.10
H382 OPERATE PORTABLE HEATING UNITS	29	36	27	3.40	4.07
F314 REMOVE PAINT OVERSPRAY FROM LANDING GEAR STRUTS	24	25	15	3.77	3.94
F313 REMOVE OR REPLACE AIRCRAFT PANELS	43	47	30	3.13	3.91
F302 POSITION NONPOWERED SUPPORT EQUIPMENT TO AIRCRAFT	48	56	41	3.44	2.92
F301 PERFORM SPOTTER DUTIES DURING MOVEMENT OF SUPPORT EQUIPMENT, GOVERNMENT VEHICLES, OR AIRCRAFT	59	64	49	2.80	3.04
F287 MARK LOCATIONS OF EMBLEMS OR LETTERS ON AIRCRAFT	27	27	18	4.06	4.99
F272 CUT DECAL OVERLAY STENCILS	27	29	18	3.87	5.11
F268 ATTACH OR REMOVE RESTRAINT OR SAFETY HARNESES	27	27	17	3.73	3.55
F259 APPLY EDGE SEALERS	53	52	33	4.41	3.50
F257 APPLY COATINGS TO AIRCRAFT WALKWAYS	32	33	19	4.34	4.14

* TE = 2.78 S.D. = 1.51 (High TE=4.29)

** TD = 5.00 S.D. = 1.00

Plan of Instruction (POI)

Job inventory tasks were matched to related training objectives in POI J3AQR45832-001, dated 9 June 1992, by technical school SMEs.

The method employed was similar to that of the STS analysis. The data examined included percent members performing data for first-job and first-enlistment (1-48 months TAFMS) personnel, and TE and TD ratings. ATI ratings for each task were also used.

POI learning objectives were compared to the standard set forth in Attachment 1, ATCR 52-22, dated 17 February 1989 (30 percent or more of the criterion first-enlistment group performing tasks trained, along with sufficiently high TE and TD ratings on those tasks). By this guidance, tasks trained in the course which do not meet these criteria should be considered for elimination from the formal course.

A review of tasks matched to the POI revealed that one learning objective, II 4a, dealing with identifying facts about control surface balancing was not supported by OSR data. This item is listed on Table 23, along with the accompanying job inventory task and survey data.

Thirty-six technical tasks with a high TE, performed by over 30 percent of first-enlistment personnel, were not matched to the POI. Tasks not matched include duties of general aircraft maintenance, general aircraft, support equipment, missile inspections, applying protective coatings, and repairing, modifying, and fabricating metal parts and assemblies of airframe structures. Examples of these tasks with survey data are listed in Table 24. Training personnel and SMEs should review these and other unreferenced tasks to determine if training should be provided in the formal course.

JOB SATISFACTION ANALYSIS

An examination of job satisfaction indicators can give career ladder managers a better understanding of factors that may affect the job performance of career ladder airmen. Therefore, the survey booklet included attitude questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions. The responses of the current survey sample were then analyzed and compared to similar maintenance career ladders.

Table 25 provides job satisfaction indicators for the AFSC 458X2 career ladder and compares first-enlistment (1-48 months TAFMS), second-enlistment (49-96 months TAFMS), and career (97+ months TAFMS) group data for the current AFSC 458X2 career ladder with similar maintenance career ladders. Data indicate a high degree of job interest across all 458X2 TAFMS and job groups. When compared to the first-enlistment group, there was a slight decline in perceived use of talents in the second-enlistment (49-96 month) category and a

TABLE 23

POI OBJECTIVES NOT SUPPORTED BY OSR DATA

POI OBJECTIVES/TASKS	TNG EMP*	PERCENT MEMBERS PERFORMING		ATI	TSK DIF**
		1ST JOB (N=39)	1ST ENL (N=140)		
II 4a. Given five statements pertaining to aircraft control surface balancing, identify which statements are true and which are false. At least four out of the five must be identified correctly.					
V969 Balance aircraft flight control surfaces using calculation method	3.17	13	8	7	6.82
V971 Balance aircraft flight control surfaces using scale method	3.47	15	9	7	6.85
V972 Balance aircraft flight control surfaces using trial weight method	2.70	6	4	2	6.44

* TE = 2.78, S.D. = 1.51 (High TE = 4.29)

** TD = 5.00, S.D. = 1.00

TABLE 24

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 30 PERCENT OR MORE
FIRST-ENLISTMENT PERSONNEL NOT REFERENCED TO THE POI

TASKS	TNG EMP*	1ST ENL PERCENT MEMBERS PERFORMING (N=1,040)	ATI	TSK DIF**
F256 APPLY AERODYNAMIC SMOOTHING COMPOUNDS	5.31	55	18	3.92
F258 APPLY DECALS TO AIRCRAFT OR SUPPORT EQUIPMENT	4.91	53	18	4.61
F259 APPLY EDGE SEALERS	4.41	54	18	3.50
F260 APPLY MASKING MATERIALS TO SURFACES	5.23	68	18	3.74
F266 APPLY STENCIL MARKINGS TO AIRCRAFT OR SUPPORT EQUIPMENT	4.80	54	18	4.38
F274 DETERMINE CLEANLINESS OF METAL SURFACES BY VISUAL INSPECTIONS	4.69	54	18	3.61
F283 FABRICATE STENCILS BY MACHINE	4.41	53	18	3.91
F295 PAINT LETTERS ON AIRCRAFT	4.41	47	18	5.02
F299 PERFORM MINOR SURFACE DAMAGE REPAIRS USING SEALANTS AND POTTING COMPOUNDS	4.91	52	18	4.43
G325 DETERMINE EXTENT OF STRUCTURAL DAMAGES	5.46	45	18	6.38
G330 IDENTIFY TYPES OF CORROSION	6.26	47	18	4.96
G334 INSPECT AIRCRAFT SURFACES FOR CORROSION	5.50	46	18	5.50
G337 INSPECT AREAS FOR CORROSION USING HAND EQUIPMENT, SUCH AS FLASHLIGHTS, PROBES, OR MIRRORS	4.91	49	18	5.06
G342 INSPECT REPAIRED OR DAMAGED AREAS USING HAMMER TAP OR COIN TAP METHODS	5.20	57	18	4.53
J495 MIX PAINTS	5.17	57	18	4.12
J500 PREPARE POLYURETHANE COATINGS FOR APPLICATION	5.37	55	18	4.58
J501 PREPARE PRIMERS FOR APPLICATION	5.19	50	18	4.28
J513 WIPE DOWN SURFACES PRIOR TO PAINTING	4.49	62	18	3.09
M682 INSTALL NONFLUSH SKIN REPAIRS	6.61	68	18	5.71
M710 STOPDRILL CRACKS ON SHEET METAL	4.63	73	18	3.16
M711 TRIM AND FIT AIRCRAFT SKINS	5.81	55	18	6.28
M712 TRIM AND FIT DOORS OR ACCESS PANELS	5.97	55	18	6.36
N718 APPLY SEALANT TO FASTENERS	4.84	64	18	3.58
O759 INSTALL OR REMOVE HINGES	4.64	48	18	4.51
X1009 ACCESS CAMS MENUS AND DATA SCREENS	4.86	54	18	4.76
X1012 CHANGE CAMS WORKCENTER EVENT NARRATIVES	5.04	52	18	4.78
X1019 OPEN OR CLOSE CAMS	4.87	51	18	4.12

* TE = 2.78, S.D. = 1.51 (High TE = 4.29)

** TD = 5.00, S.D. = 1.00

TABLE 25

JOB SATISFACTION INDICATORS FOR AFSC 458X2 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	458X2 (N=1,040)	COMP SAMPLE (N=3,272)	458X2 (N=620)	COMP SAMPLE (N=2,917)	458X2 (N=1,442)	COMP SAMPLE (N=6,421)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	81	74	80	72	80	75
SO-SO	13	16	13	17	13	16
DULL	6	10	7	11	6	9
<u>PERCEIVED USE OF TALENTS:</u>						
NONE TO VERY LITTLE	12	20	11	20	14	18
FAIRLY TO VERY WELL	71	58	69	50	64	51
EXCELLENT TO PERFECT	17	17	20	21	22	24
NOT REPORTED	-	5	-	9	-	7
<u>PERCEIVED USE OF TRAINING:</u>						
NONE TO VERY LITTLE	8	14	12	19	15	21
FAIRLY TO VERY WELL	72	68	74	66	64	63
EXCELLENT TO PERFECT	19	17	15	15	21	16
<u>SENSE OF JOB ACCOMPLISHMENT:</u>						
DISSATISFIED	7	14	11	17	13	17
NEUTRAL	10	12	8	12	9	10
SATISFIED	83	74	81	71	78	72
<u>REENLISTMENT INTENTIONS:</u>						
YES OR PROBABLY YES	60	59	73	70	76	75
NO OR PROBABLY NO	39	41	27	30	9	7
WILL RETIRE	0	0	0	0	15	18

Source for Comp Data: COMPARATIVE DATA, 28 Jan 93

further decline in the career (97+ months) TAFMS group. The perceived use of training remained high among all groups. In general, job interest, use of talents, use of training, and sense of job accomplishment are high.

Table 26 compares job satisfaction indicators across career ladder jobs. Comparison data were relatively stable in all the indicators for the three comparison groups. Overall, satisfaction for all three TAFMS groups is relatively high, as reflected by the high sense of job accomplishment and reenlistment intentions of each group. The percentages of positive responses in these comparisons show a career ladder where personnel appear to be quite satisfied with their jobs.

Table 27 presents job satisfaction data for the major jobs identified in the current career ladder structure for AFSC 458X2 and compares data to the career ladder prior to the October 1989 merger. An examination of these data can reveal the influences of performing certain jobs on overall job satisfaction. Job satisfaction indicators for the specialty job groups suggest that members of the current Bench Stock/Tool Crib/Supply cluster are most satisfied. Among all other jobs, satisfaction was very high. The supervisory cluster indicated a high degree of job interest, but data reflected a dramatic drop in perceived use of talents. This was the only job reflecting a large drop in this category. Overall, all members reflected a high sense of accomplishment from their job, and reenlistment intentions remained steadily high. When compared to data prior to the AFSC merger, all job satisfaction areas showed an increase leading to the conclusion that members are more satisfied with their jobs now than prior to the merger.

IMPLICATIONS

As explained in the INTRODUCTION, this survey was conducted primarily to provide training personnel with current information on the Aircraft Structural Maintenance career ladder for use in reviewing current training programs and training documents. The present classification structure, as described by the AFR 39-1 Specialty Descriptions, accurately portrays the jobs in this specialty. Data support the notion that this Rivet Workforce merger is working.

Analysis of career ladder documents indicates both the STS and POI contain a number of unsupported line items and learning objectives. The unsupported areas in both documents appear to be closely related since they focus on general aircraft structural maintenance and corrosion control and should be reviewed to determine if their inclusion in future revisions of these documents is warranted.

No serious job satisfaction problems appear to exist within this specialty. Overall, job satisfaction responses were almost all high, compared to a sample of similar Air Force personnel surveyed in 1992.

TABLE 26

JOB SATISFACTION INDICATORS FOR AFSC 458X2 JOBS
(PERCENT MEMBERS RESPONDING)

	ACFT STRUCTURAL MAINT AND REPAIR (N=1,971)	CORROSION CONTROL (N=477)	QUALITY ASSURANCE (N=29)	INSTRUCTION (AIRFRAME) (N=19)	SUPERVISORY (N=219)	TOOL CRIB/ BENCH STOCK SUPPLY (N=52)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	76	74	86	80	94	90
SO-SO	14	17	9	12	0	10
DULL	10	9	5	8	6	0
<u>PERCEIVED USE OF TALENTS:</u>						
FAIRLY WELL TO PERFECT	76	89	87	88	83	90
NONE TO VERY LITTLE	23	11	13	12	17	10
<u>PERCEIVED USE OF TRAINING:</u>						
FAIRLY WELL TO PERFECT	94	91	67	96	33	70
NONE TO VERY LITTLE	5	9	33	4	67	30
<u>SENSE OF ACCOMPLISHMENT FROM</u>						
<u>JOB:</u>						
SATISFIED	77	79	78	72	72	90
NEUTRAL	11	6	7	12	11	0
DISSATISFIED	11	15	15	16	17	10
<u>REENLISTMENT INTENTIONS:</u>						
YES OR PROBABLY YES	69	73	73	84	83	90
NO OR PROBABLY NO	30	25	3	12	0	10
WILL RETIRE	0	2	24	4	17	0

TABLE 27

COMPARATIVE TAFMS JOB SATISFACTION INDICATORS
FOR PRESENT AND PREVIOUS STUDIES

	1-48 MOS TAFMS			48-96 MOS TAFMS			97+ MOS TAFMS		
	458X2 (N=1,040)	427X5 (N=1,327)	427X1 (N=481)	458X2 (N=620)	427X5 (N=448)	427X1 (N=245)	458X2 (N=1,442)	427X5 (N=567)	427X1 (N=370)
<u>EXPRESSED JOB INTEREST:</u>									
INTERESTING	81	77	49	80	72	47	80	80	61
SO-SO	13	14	30	13	17	28	13	13	21
DULL	6	9	21	7	10	25	6	6	18
<u>PERCEIVED USE OF TALENTS:</u>									
FAIRLY VERY TO PERFECT	88	83	72	89	79	72	86	84	74
NONE TO VERY LITTLE	12	17	27	11	20	28	14	16	26
<u>PERCEIVED USE OF TRAINING:</u>									
FAIRLY TO VERY WELL	92	85	81	88	82	73	85	84	77
NONE TO VERY LITTLE	8	14	19	12	17	26	15	16	33
<u>SENSE OF JOB ACCOMPLISHMENT:</u>									
SATISFIED	83	76	63	81	68	58	78	73	58
NEUTRAL	10	12	16	8	12	14	9	9	14
DISSATISFIED	7	12	21	11	20	27	13	18	28
<u>REENLISTMENT INTENTIONS:</u>									
YES OR PROBABLY YES	60	59	62	73	76	75	76	80	76
NO OR PROBABLY NO	39	40	36	27	23	22	9	14	8
WILL RETIRE	0	*	*	0	*	2	15	6	14

* Less than 1 percent

The findings of this OSR come directly from the survey data collected from Aircraft Structural Maintenance personnel worldwide. These data are readily available to training and utilization personnel, functional managers, and other interested parties having a need for such information. Much of the data are compiled into extracts, which are excellent tools in the decision-making process. These data extracts should be used when training or utilization decisions are made.

APPENDIX A
SELECTED REPRESENTATIVE TASKS PERFORMED BY
MEMBERS OF CAREER LADDER JOBS

TABLE A1

AIRCRAFT STRUCTURAL MAINTENANCE AND REPAIR CLUSTER
(STG140)

NUMBER OF PEOPLE IN GROUP: 1,971 TAFMS: 84 MONTHS
 PERCENTAGE OF TOTAL SAMPLE: 63.5% TICF: 76 MONTHS
 AVERAGE NUMBER OF TASKS PERFORMED: 228

TASKS	PERCENT MEMBERS PERFORMING
0729 COUNTERSINK FASTENER HOLES	98
0732 DRILL FASTENER HOLES	98
M661 CUT AND TRIM SHEET METAL	94
M662 CUT RIVETS	94
M710 STOPDRILL CRACKS ON SHEET METAL	93
M650 ALIGN RIVET OR SPECIAL FASTENER HOLES	92
M693 REMOVE DAMAGED AREAS BY CHAIN DRILLING	92
0734 INSPECT FASTENERS FOR FLUSH INSTALLATION	91
M707 SECURE SHEET METAL WITH CLECO FASTENERS	90
M682 INSTALL NONFLUSH SKIN REPAIRS	90
0766 INSTALL OR REMOVE NUT PLATES, OTHER THAN GANG CHANNEL	89
M694 REMOVE DAMAGED AREAS USING AVIATION SNIPS	88
M669 FABRICATE REPAIR PARTS	87
0733 INSPECT DRILLED FASTENER HOLES	87
M681 INSTALL FLUSH SKIN REPAIRS	86
0767 INSTALL OR REMOVE PULL-THROUGH BLIND RIVETS	86
0740 INSPECT INSTALLED NUT PLATES	85
0755 INSTALL OR REMOVE HI-LOK FASTENERS	85
M670 FORM AND TRIM METAL PATCHES OR REINFORCEMENTS	84
M712 TRIM AND FIT DOORS OR ACCESS PANELS	84
N718 APPLY SEALANT TO FASTENERS	84
0777 LAY OUT PATTERNS FOR FASTENERS	83
M665 DEVELOP LAYOUTS FOR REPAIRS OR PARTS	82
U942 CUT TUBING	82
M705 SCUFF UP METAL SURFACES	81
0772 INSTALL OR REMOVE SOLID-SHANK RIVETS	81
M711 TRIM AND FIT AIRCRAFT SKINS	81
0778 MICROSHAVE FASTENERS	81
0761 INSTALL OR REMOVE JO-BOLT FASTENERS	80
F305 PREPARE SURFACES BY HAND SANDING	79
F309 PREPARE SURFACES USING PNEUMATIC SANDERS	78
U943 DEBURR, FILE, OR SAND TUBING	78

TABLE A2
CORROSION CONTROL CLUSTER
(STG126)

NUMBER OF PEOPLE IN GROUP: 477 TAFMS: 94 MONTHS
PERCENTAGE OF TOTAL SAMPLE: 15.4% TICF: 84 MONTHS
AVERAGE NUMBER OF TASKS PERFORMED: 169

TASKS	PERCENT MEMBERS PERFORMING
F309 PREPARE SURFACES USING PNEUMATIC SANDERS	91
J513 WIPE DOWN SURFACES PRIOR TO PAINTING	90
F260 APPLY MASKING MATERIALS TO SURFACES	88
F312 REMOVE MASKING MATERIALS FROM SURFACES	87
J495 MIX PAINTS	85
F305 PREPARE SURFACES BY HAND SANDING	85
J500 PREPARE POLYURETHANE COATINGS FOR APPLICATION	84
H360 CHANGE RESPIRATOR CARTRIDGES	83
F283 FABRICATE STENCILS BY MACHINE	81
F266 APPLY STENCIL MARKINGS TO AIRCRAFT OR SUPPORT EQUIPMENT	81
J509 STRAIN PAINTS	79
K581 REMOVE PROTECTIVE COATINGS USING PNEUMATIC SANDERS	75
H363 CLEAN PERSONAL PROTECTIVE EQUIPMENT	74
J501 PREPARE PRIMERS FOR APPLICATION	73
L624 LAY DOWN OR PICK UP BARRIER PAPER	72
F258 APPLY DECALS TO AIRCRAFT OR SUPPORT EQUIPMENT	72
F304 PREPARE CORROSION CONTROL MATERIALS PRIOR TO JOB PERFORMANCE	72
J422 APPLY CAMOUFLAGE COATINGS TO AIRCRAFT OR SUPPORT EQUIPMENT	70
F311 REMOVE DECALS FROM AIRCRAFT OR SUPPORT EQUIPMENT	70
J462 APPLY POLYURETHANE COATINGS USING SUCTION-FEED SPRAY GUNS	69
F295 PAINT LETTERS ON AIRCRAFT	69
F274 DETERMINE CLEANLINESS OF METAL SURFACES BY VISUAL INSPECTIONS	68
J507 SET UP SUCTION-FEED SPRAY EQUIPMENT FOR USE	67
F280 DISPOSE OF PROTECTIVE COATING MATERIAL	69
J498 PREPARE EPOXY COATINGS FOR APPLICATION	65
H370 INSPECT CONDITION OF CARTRIDGE RESPIRATORS	65
G329 IDENTIFY CAUSES OF SPRAY DEFECTS	65
L618 INSPECT AIR HOSES	64
J499 PREPARE LACQUERS FOR APPLICATION	63
J450 APPLY LACQUERS USING AEROSOL SPRAYS	62
G338 INSPECT CONDITION OF PROTECTIVE COATING	62
L626 OIL PNEUMATICALLY POWERED TOOLS	61

TABLE A3
QUALITY ASSURANCE (QA) IJT
(STG498)

NUMBER OF PEOPLE IN GROUP: 29 TAFMS: 152 MONTHS
PERCENTAGE OF TOTAL SAMPLE: 1% TICF: 139 MONTHS
AVERAGE NUMBER OF TASKS PERFORMED: 95

TASKS	PERCENT MEMBERS PERFORMING
C108 INSPECT SHOP MAINTENANCE ACTIVITIES	100
C106 INSPECT FLIGHTLINE MAINTENANCE ACTIVITIES	97
C93 EVALUATE PERSONNEL FOR COMPLIANCE WITH PERFORMANCE STANDARDS OR TECHNICAL ORDERS	93
G340 INSPECT INSTALLED RIVETS FOR STRUCTURAL DEFORMITIES	93
O739 INSPECT INSTALLED MECHANICAL-LOCK BLIND RIVETS	93
O734 INSPECT FASTENERS FOR FLUSH INSTALLATION	90
G337 INSPECT AREAS FOR CORROSION USING HAND EQUIPMENT, SUCH AS FLASHLIGHTS, PROBES, OR MIRRORS	90
O740 INSPECT INSTALLED NUT PLATES	86
C78 CONDUCT INSPECTIONS OF ORGANIZATIONAL EQUIPMENT	83
G338 INSPECT CONDITION OF PROTECTIVE COATINGS	83
T929 INSPECT FABRICATED CABLE ASSEMBLIES	83
C117 WRITE INSPECTION REPORTS	79
C111 PERFORM SAFETY INSPECTIONS OF EQUIPMENT OR FACILITIES	79
G332 INSPECT AIRCRAFT FOR CLEANLINESS	79
B58 IMPLEMENT QUALITY CONTROL PROGRAMS	79
G342 INSPECT REPAIRED OR DAMAGED AREAS USING HAMMER TAP OR COIN TAP METHODS	79
O735 INSPECT INSTALLED FRICTION-LOCK BLIND RIVETS	76
C100 EVALUATE TECHNICAL ORDER IMPROVEMENT REPORTS	76
N722 INSPECT FOR MISSING SEALANTS	76
G349 PERFORM PERIODIC VISUAL INSPECTIONS OF SUPPORT EQUIPMENT	72
G347 PERFORM ACCEPTANCE INSPECTIONS OF AIRCRAFT ON WHICH CONTRACT OR DEPOT WORK WAS PERFORMED	72
G334 INSPECT AIRCRAFT SURFACES FOR CORROSION	72
G348 PERFORM PERIODIC PHASE INSPECTIONS OF AIRCRAFT	69
G333 INSPECT AIRCRAFT FOR STRUCTURAL FAILURES	69
A23 ESTABLISH INSPECTION PROCEDURES	69
Q851 INSPECT FIBERGLASS REPAIRS FOR PROPER BONDING	69
G344 INSPECT RESHAPED AREAS FOR DEFECTS	69
E220 PARTICIPATE IN TCTO MEETINGS	66
C109 INVESTIGATE ACCIDENTS OR INCIDENTS	66
E242 REVIEW TECHNICAL ORDER CHANGES	66
C99 EVALUATE SUGGESTIONS	66
N720 INSPECT FOR DEFECTIVE SEALS	66

TABLE A4
INSTRUCTION (AIRFRAME) IJT
(STG142)

NUMBER OF PEOPLE IN GROUP: 19 TAFMS: 148 MONTHS
PERCENTAGE OF TOTAL SAMPLE: 1% TICF: 137 MONTHS
AVERAGE NUMBER OF TASKS PERFORMED: 85

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
0732 DRILL FASTENER HOLES	95
D143 EVALUATE PROGRESS OF TRAINEES	89
D122 ADMINISTER OR SCORE TESTS	89
0733 INSPECT DRILLED FASTENER HOLES	89
D125 CONDUCT RESIDENT COURSE CLASSROOM TRAINING	84
D152 PREPARE LESSON PLANS	84
M707 SECURE SHEET METAL WITH CLECO FASTENERS	84
D150 PREPARE INSTRUCTION TRAINING AREAS OR FACILITIES	74
0734 INSPECT FASTENERS FOR FLUSH INSTALLATION	74
M661 CUT AND TRIM SHEET METAL	74
0729 COUNTERSINK FASTENER HOLES	74
D130 COUNSEL TRAINEES ON TRAINING PROGRESS	74
D158 WRITE TEST QUESTIONS	68
D144 EVALUATE TRAINING MATERIALS OR AIDS	68
C93 EVALUATE PERSONNEL FOR COMPLIANCE WITH PERFORMANCE STANDARDS OR TECHNICAL ORDERS	63
M669 FABRICATE REPAIR PARTS	63
0777 LAY OUT PATTERNS FOR FASTENERS	63
E199 INVENTORY EQUIPMENT, SUPPLIES, OR TOOLS, OTHER THAN CTKs	63
D136 DEVELOP TRAINING AIDS	63
0761 INSTALL OR REMOVE JO-BOLT FASTENERS	63
E190 INITIATE AF FORMS 1297 (TEMPORARY ISSUE RECEIPT)	63
D133 DEVELOP FORMAL COURSE CURRICULA, PLANS OF INSTRUCTIONS (POI), OR SPECIALTY TRAINING STANDARDS (STS)	58
M650 ALIGN RIVET OR SPECIAL FASTENER HOLES	58
E171 COMPLETE AF FORMS 2005 (ISSUE/TURN-IN REQUEST)	58
E198 INVENTORY COMPOSITE TOOL KITS (CTKs)	58
M665 DEVELOP LAYOUTS FOR REPAIRS OR PARTS	53
M693 REMOVE DAMAGED AREAS BY CHAIN DRILLING	53
D146 INSPECT TRAINING AIDS FOR OPERATION OR SUITABILITY	53
M671 IDENTIFY CHARACTERISTICS OF SPECIFIC METALS	53
D145 EVALUATE TRAINING METHODS OR TECHNIQUES	53

TABLE A5
SUPERVISORY CLUSTER
(STG098)

NUMBER OF PEOPLE IN GROUP: 219	TAFMS: 190 MONTHS
PERCENTAGE OF TOTAL SAMPLE: 7.1%	TICF: 172 MONTHS
AVERAGE NUMBER OF TASKS PERFORMED: 121	PERCENT PEOPLE SUPERVISING: 91%
AVERAGE NUMBER PEOPLE SUPERVISED: 11	

TASKS	PERCENT MEMBERS PERFORMING
C121 WRITE EPRs	89
B44 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	89
C107 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	83
A39 SCHEDULE PERSONNEL FOR LEAVES, PASSES, OR TDY	79
A26 ESTABLISH WORK SCHEDULES	78
A33 PLAN OR SCHEDULE WORK ASSIGNMENTS	78
A2 ASSIGN PERSONNEL TO DUTY POSITIONS	78
A28 PARTICIPATE IN MEETINGS, SUCH AS STAFF MEETINGS, BRIEFINGS, CONFERENCES, OR WORKSHOPS, OTHER THAN CONDUCTING	77
C79 CONDUCT PERFORMANCE FEEDBACK WORKSHEET (PFW) EVALUATION SESSIONS	77
A16 DETERMINE OR ESTABLISH WORK PRIORITIES	77
C118 WRITE RECOMMENDATIONS FOR AWARDS OR DECORATIONS	75
B70 SUPERVISE AIRCRAFT STRUCTURAL MAINTENANCE TECHNICIANS (AFSC 45872)	74
A25 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	74
B63 INITIATE ACTION REQUIRED DUE TO SUBSTANDARD PERFORMANCE OF PERSONNEL	72
B65 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	71
B43 CONDUCT SUPERVISORY ORIENTATIONS OF NEWLY ASSIGNED PERSONNEL	71
B69 SUPERVISE AIRCRAFT STRUCTURAL MAINTENANCE SPECIALISTS (AFSC 45852)	70
C72 ANALYZE WORKLOAD REQUIREMENTS	68
C93 EVALUATE PERSONNEL FOR COMPLIANCE WITH PERFORMANCE STANDARDS OR TECHNICAL ORDERS	68
A34 PLAN OR SCHEDULE WORK PRIORITIES	67
C112 PERFORM SELF-INSPECTIONS	65
C104 INDORSE ENLISTED PERFORMANCE REPORTS (EPR)	63
D123 ASSIGN ON-THE-JOB TRAINING (OJT) TRAINERS OR SUPERVISORS	63
A20 DEVELOP WORK METHODS OR PROCEDURES	63
A19 DEVELOP SELF-INSPECTION PROGRAMS	63
B45 DIRECT AIRCRAFT STRUCTURAL MAINTENANCE ACTIVITIES	63
A3 ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	62
C73 CERTIFY STATUS OF PARTS, SUCH AS REPAIRABLE, SERVICEABLE, OR CONDEMNED	61

TABLE A6
TOOL CRIB/BENCH STOCK SUPPLY CLUSTER
(STG268)

NUMBER OF PEOPLE IN GROUP: 52 TAFMS: 126 MONTHS
PERCENTAGE OF TOTAL SAMPLE: 2% TICF: 109 MONTHS
AVERAGE NUMBER OF TASKS PERFORMED: 70

TASKS	PERCENT MEMBERS PERFORMING
E219 MAINTAIN TOOL CRIBS OR CTKs	100
E198 INVENTORY COMPOSITE TOOL KITS (CTKs)	94
E206 MAINTAIN BENCHSTOCK PARTS OR EQUIPMENT LEVELS	92
E201 ISSUE EQUIPMENT AND SUPPLIES	92
E171 COMPLETE AF FORMS 2005 (ISSUE/TURN IN REQUEST)	92
E199 INVENTORY EQUIPMENT, SUPPLIES, OR TOOLS, OTHER THAN CTKs	88
E190 INITIATE AF FORMS 1297 (TEMPORARY ISSUE RECEIPT)	85
A22 ESTABLISH BENCHSTOCK REQUIREMENTS	83
E250 VALIDATE SUPPLY TRANSACTION LISTINGS, SUCH AS D04, D18, D19, D23, OR M30	81
E235 REVIEW AF FORMS 2413 (SUPPLY CONTROL LOG)	79
E231 RESEARCH MICROFICHE FILES FOR SUPPLY REQUISITION DATA	77
E182 COORDINATE OBTAINING PARTS WITH BASE SUPPLY	77
E211 MAINTAIN MICROFICHE STOCK FILES	75
E222 PICK UP OR DELIVER EQUIPMENT, SUPPLIES, OR TOOLS FROM SUPPLY POINTS	71
E196 INSPECT SHELF LIFE OF PROTECTIVE COATINGS, PROTECTIVE COMPOUNDS, OR RESINS	71
E161 ANNOTATE OR COMPLETE AF FORMS 2413 (SUPPLY CONTROL LOG)	69
E203 MAINTAIN AF FORMS 2005 SUSPENSE FILES	68
E178 COMPLETE DD FORMS 1348-1 (DOD SINGLE LINE ITEM RELEASE/ RECEIPT DOCUMENT)	67
E244 ROTATE STOCK TO KEEP OLD ITEMS IN FRONT	67
E202 LOG TURN-INS OF EQUIPMENT AND SUPPLIES	65
E165 ATTACH OR ANNOTATE EQUIPMENT STATUS LABELS OR TAGS, SUCH AS DD FORMS 1574 (SERVICEABLE TAG-MATERIEL)	62
E212 MAINTAIN PRECISION MEASUREMENT EQUIPMENT (PME) CALIBRATION SCHEDULES	58
E187 EVALUATE SERVICEABILITY OF EQUIPMENT OR SUPPLIES	56
X1009 ACCESS CAMS MENUS AND DATA SCREENS	56
E185 ESTABLISH PROCEDURES FOR ACCOUNTABILITY OF EQUIPMENT AND SUPPLIES	54
X1009 OPEN OR CLOSE CAMS	54
E247 SAMPLE SEALANTS PRIOR TO UPDATE OF SHELF LIFE	54